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Letting January 17, 2020

Notice to Bidders, Specifications and Proposal



**Contract No. 61F36
COOK County
Section 16-00264-00-PV (Oak Park)
Route FAU 1405 (Lake Street)
Project JCKZ-724 ()
District 1 Construction Funds**

Prepared by	
Checked by	F

(Printed by authority of the State of Illinois)



- 1. TIME AND PLACE OF OPENING BIDS.** Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 10:00 a.m. January 17, 2020 at which time the bids will be publicly opened from the iCX SecureVault.
- 2. DESCRIPTION OF WORK.** The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

**Contract No. 61F36
COOK County
Section 16-00264-00-PV (Oak Park)
Project JCKZ-724 ()
Route FAU 1405 (Lake Street)
District 1 Construction Funds**

Reconstruction of Lake Street from Harlan Avenue to Euclid Avenue in Oak Park.

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

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

By Order of the
Illinois Department of Transportation

Omer Osman,
Acting Secretary

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FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2020

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

ERRATA Standard Specifications for Road and Bridge Construction (Adopted 4-1-16) (Revised 1-1-20)

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BDE SPECIAL PROVISIONS

The following special provisions indicated by an "X" are applicable to this contract. An * indicates a new or revised special provision for the letting.

<u>File Name</u>	<u>Pg.</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80099			Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274			Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192			Automated Flagger Assistance Device	Jan. 1, 2008	
80173	316	X	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
* 80246			Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	
80241			Bridge Demolition Debris	July 1, 2009	
50261			Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481			Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491			Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531			Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
* 80425			Cape Seal	Jan. 1, 2020	
80384	318	X	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198			Completion Date (via calendar days)	April 1, 2008	
80199			Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293			Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311			Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277			Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261	322	X	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387			Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
80029	325	X	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
80402	335	X	Disposal Fees	Nov. 1, 2018	
80378	337	X	Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80405			Elastomeric Bearings	Jan. 1, 2019	
* 80421	344	X	Electric Service Installation	Jan. 1, 2020	
80415	346	X	Emulsified Asphalts	Aug. 1, 2019	
* 80423	349	X	Engineer's Field Office Laboratory	Jan. 1, 2020	
80388	352	X	Equipment Parking and Storage	Nov. 1, 2017	
80229	353	X	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80417			Geotechnical Fabric for Pipe Underdrains and French Drains	Nov. 1, 2019	
80420			Geotextile Retaining Walls	Nov. 1, 2019	
80304			Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
* 80422			High Tension Cable Median Barrier Reflectors	Jan. 1, 2020	
80416			Hot-Mix Asphalt – Binder and Surface Course	July 2, 2019	Nov. 1, 2019
80398	356	X	Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	Nov. 1, 2019
* 80406			Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT Data Collection)	Jan. 1, 2019	Jan. 2, 2020
80347			Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	July 2, 2019
80383			Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	July 2, 2019
80411			Luminaires, LED	April 1, 2019	
80393	360	X	Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	Mar. 1, 2019
80045			Material Transfer Device	June 15, 1999	Aug. 1, 2014
80418			Mechanically Stabilized Earth Retaining Walls	Nov. 1, 2019	
* 80424			Micro-Surfacing and Slurry Sealing	Jan. 1, 2020	
80165			Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80412			Obstruction Warning Luminaires, LED	Aug. 1, 2019	
80349			Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	362	X	Pavement Marking Removal	July 1, 2016	
80389	363	X	Portland Cement Concrete	Nov. 1, 2017	
80359			Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2019

<u>File Name</u>	<u>Pg.</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80300		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	364	X Progress Payments	Nov. 2, 2013	
34261		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
* 80306		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 2, 2020
* 80407	365	X Removal and Disposal of Regulated Substances	Jan. 1, 2019	Jan. 1, 2020
80419	376	X Silt Fence, Ground Stabilization and Riprap Filter Fabric	Nov. 1, 2019	
80395		Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340		Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127		Steel Cost Adjustment	April 2, 2014	Aug. 1, 2017
80408		Steel Plate Beam Guardrail Manufacturing	Jan. 1, 2019	
80413		Structural Timber	Aug. 1, 2019	
80397	379	X Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	380	X Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
80317		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	Aug. 1, 2019
80298	381	X Temporary Pavement Marking	April 1, 2012	April 1, 2017
80403		Traffic Barrier Terminal, Type 1 Special	Nov. 1, 2018	
80409	384	X Traffic Control Devices – Cones	Jan. 1, 2019	
* 80410		Traffic Spotters	Jan. 1, 2019	
20338	385	X Training Special Provisions	Oct. 15, 1975	
80318		Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80288	388	X Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	390	X Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
80414		Wood Fence Sight Screen	Aug. 1, 2019	
80071		Working Days	Jan. 1, 2002	

The following special provisions are in the 2020 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location(s)</u>	<u>Effective</u>	<u>Revised</u>
80404	Coarse Aggregate Quality for Micro-Surfacing and Cape Seals	Article 1004.01(b)	Jan. 1, 2019	
80392	Lights on Barricades	Articles 701.16, 701.17(c)(2) & 603.07	Jan. 1, 2018	
80336	Longitudinal Joint and Crack Patching	Check Sheet #36	April 1, 2014	April 1, 2016
80400	Mast Arm Assembly and Pole	Article 1077.03(b)	Aug. 1, 2018	
80394	Metal Flared End Section for Pipe Culverts	Articles 542.07(c) and 542.11	Jan. 1, 2018	April 1, 2018
80390	Payments to Subcontractors	Article 109.11	Nov. 2, 2017	April 1, 2017

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", 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 FAU 1405 (Lake Street), Section: 16-00264-00-PV, in Cook County, Contract: **61F36**, Project Number **JCKZ(724)** and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT

This project is located in the Village of Oak Park from the intersection of Lake Street and Harlem Avenue to the intersection of Lake Street and Euclid Avenue in Cook County.

The roadway improvement along Lake Street covers a gross and net length of approximately 3,388 feet (0.642 miles).

DESCRIPTION OF PROJECT

The work consists of tree removal and replacement, landscape plantings, earth excavation, removal and disposal of unsuitable material, storm sewer and drainage structures, water main appurtenances, irrigation systems, streetscape furniture and amenities, decorative lighting, erosion control, hot-mix asphalt surface course, hot-mix asphalt full-depth pavement 10", PCC driveway pavement, HES PCC base course 9", PCC sidewalk, paver blocks, brick pavers, combination concrete curb and gutter, traffic signal modernization, as well as all incidental and collateral work necessary to complete the project as shown on the plans and described herein.

COOPERATION WITH ADJACENT CONTRACTS

The intent of this provision is to inform the Contractor that the Village will have additional contracts that are scheduled during the same time period as this contract.

1. The Village of Oak Park Sewer and Water Improvements along Lake Street from Grove Avenue to Ridgeland Avenue are anticipated to occur March 2020 through May 2020.
2. The Village of Oak Park Lake Street Resurfacing project from Euclid Avenue to Austin Boulevard is anticipated to occur May 2020 through August 2020.

The Contractor is required to cooperate with these adjacent contracts in accordance with Section 105.08 of the Standard Specifications and may be required to modify his/her staging operations/schedule in order to meet these requirements.

AVAILABLE REPORTS

No project specific reports were prepared.

When applicable, the following checked reports and record information is available for Bidders' reference upon request:

- Record structural plans
- Preliminary Site Investigation (PSI)
- Preliminary Environmental Site Assessment (PESA)
- Soils/Geotechnical Report
- Boring Logs
- Pavement Cores
- Location Drainage Technical Memorandum (LDTM)
- Hydraulic Report
- Noise Analysis
- Other: _____

Those seeking these reports should request access from:

William McKenna, P.E.
Village Engineer
bmckenna@oak-park.us

Village of Oak Park Public Works Center
201 South Boulevard
Oak Park, IL 60302

PERMITS

The contractor shall obtain all necessary permits, as required, prior to commencing with construction. Any cost associated with obtaining these permits shall be considered included in the cost of the contract unit price for the items being installed.

The department has not obtained any permits for offsite borrow waste, use (bwu) areas. Prior to working in bwu areas, if the contractor chooses to use activities requiring permits it is the contractor's responsibility to secure the proper permits. In addition to the borrow review (BDE 2289) and use/waste review (BDE 2290) submittals, the contractor shall submit an erosion and sediment control (esc) plan for every bwu site to the department for acceptance. Guidelines for acceptable bwu practices can be found in section II.G.1 and 2 of the SWPPP. The cost of all materials and labor necessary to comply with the above provisions to prepare and implement ESC plans will not be paid for separately, but shall be considered as included in the unit bid prices of the contract and no additional compensation will be allowed.

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.

RESTRICTION ON WORKING DAYS AFTER A COMPLETION DATE

Effective: January 21, 2003

Revised: January 1, 2007

All temporary lane closures during the period governed by working days after a completion date will not be permitted during the hours of 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m. Monday through Friday.

All lane closure signs shall not be erected any earlier than one-half (1/2) hour before the starting hours listed above. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed.

Failure to Open Traffic Lanes to Traffic: Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable and shall pay to the Department the amount of \$250 per lane blocked, not as a penalty but as liquidated and ascertained damages, for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. The Department may deduct such damages from any monies due the Contractor. These damages shall apply during the period governed by working days after a completion date and any extensions of that contract time.

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 **November 20, 2020** except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within **20** 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 clean-up 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 completion date and the number of working days.

INTERIM COMPLETION DATE

All required work as shown and described in Stages 1, 1A, 1B, 1C, 2, 3A, and 3B shall be completed and traffic shifted into Stage 4 position by the interim completion date of **August 7, 2020**.

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 completion date and the number of working days.

STAGING DURATIONS

All work as shown in Stage 2 of the Suggested Maintenance of Traffic shall have a duration of no longer than 14 calendar days.

All work as shown in Stage 3A of the Suggested Maintenance of Traffic shall have a duration of no longer than 14 calendar days.

All work as shown in Stage 3B of the Suggested Maintenance of Traffic shall have a duration of no longer than 10 calendar days.

All work as shown in Stage 4D of the Suggested Maintenance of Traffic shall have a duration of no longer than 3 calendar days.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to the staging durations.

RECLAIMED ASPHALT PAVEMENT FOR NON-POROUS EMBANKMENT AND BACKFILL

Effective: April 1, 2001

Revised: January 1, 2007

Add the following sentence to Article 1004.05 (a) of the Standard Specifications:

"Reclaimed Asphalt Pavement (RAP) may be used as aggregate in Non-porous Granular Embankment and Backfill. The RAP material shall be reclaimed asphalt pavement material resulting from the cold milling or crushing of an existing hot-mix bituminous concrete pavement structure, including shoulders. RAP containing contaminants such as earth, brick, concrete, sheet asphalt, sand, or other materials identified by the Department will be unacceptable until the contaminants are thoroughly removed.

Add the following sentence to Article 1004.05 (c)(2) of the Standard Specifications:

"One hundred percent of the RAP when used shall pass the 3 inch (75 mm) sieve. The RAP shall be well graded from coarse to fine. RAP that is gap-graded or single-sized will not be accepted."

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS

Effective: April 1, 2001

Revised: January 2, 2007

Revise Article 402.10 of the Standard Specifications to read:

"402.10 For Temporary Access. The contractor shall construct and maintain aggregate surface course for temporary access to private entrances, commercial entrances and roads according to Article 402.07 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.

- (a) Private Entrance. The minimum width shall be 12 ft (3.6 m). The minimum compacted thickness shall be 6 in. (150 mm). The maximum grade shall be eight percent, except as required to match the existing grade.
- (b) Commercial Entrance. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The maximum grade shall be six percent, except as required to match the existing grade.
- (c) Road. The minimum width shall be 24 ft (7.2 m). The minimum compacted thickness shall be 9 in. (230 mm). The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

Maintaining the temporary access shall include relocating and/or regrading 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.

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.”

Add the following to Article 402.12 of the Standard Specifications:

“Aggregate surface course for temporary access will be measured for payment as each for every private entrance, commercial entrance or road constructed for the purpose of temporary access. If a residential drive, commercial entrance, or road 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.”

Revise the second paragraph of Article 402.13 of the Standard Specifications to read:

“Aggregate surface course for temporary access will be paid for at the contract unit price per each for TEMPORARY ACCESS (PRIVATE ENTRANCE), TEMPORARY ACCESS (COMMERCIAL ENTRANCE) or TEMPORARY ACCESS (ROAD).

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 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.”

STORM SEWER ADJACENT TO OR CROSSING WATER MAIN

This work consists of constructing storm sewer adjacent to or crossing a water main, at the locations shown on the plans. The material and installation requirements shall be according to the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and the applicable portions of Section 550 of the Standard Specifications; which may include concrete collars and encasing pipe with seals if required.

Pipe materials shall meet the requirements of Sections 40 and 41-2.01 of the "Standard Specifications for Water and Sewer Main Construction in Illinois. Ductile-Iron pipe shall meet the minimum requirements for Thickness Class 50.

Encasing of standard type storm sewer, according to the details for "Water and Sewer Separation Requirements (Vertical Separation)" in the "STANDARD DRAWINGS" Division of the "Standard Specifications for Water and Sewer Main Construction in Illinois", may be used for storm sewers crossing water mains.

Basis of Payment: This work will be paid according to Article 550.10 of the Standard Specifications, except the pay item shall be STORM SEWERS (SPECIAL) of the type and diameter specified

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.

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:

- 701001 Off-Rd Operations, 2L, 2W More Than 15' Away
- 701006 Off-Rd Operations, 2L, 2W 15' to 24" From Pavement Edge
- 701301 Lane Closure, 2L, 2W, Short Time Operations
- 701311 Lane Closure 2L, 2W Moving Operations-Day Only
- 701501 Urban Lane Closure, 2L, 2W, Undivided
- 701502 Urban Lane Closure, 2L, 2W, With Bidirectional Left Turn Lane
- 701701 Urban Lane Closure, Multilane Intersection
- 701801 Sidewalk, Corner or Crosswalk Closure
- 701901 Traffic Control Devices

DETAILS:

- TC-10 Traffic Control & Protection for Side Roads, Intersections & Driveways
- TC-13 District One Typical Pavement Markings
- TC-16 Short Term Pavement Marking Letters and Symbols
- TC-26 Driveway Entrance Signing

SPECIAL PROVISIONS:

- Maintenance of Roadways
- Public Convenience and Safety (District 1)
- Traffic Control and Protection (Arterials)
- Temporary Information Signing
- Keeping Arterial Roadways Open to Traffic (Lane Closures Only)
- Driveway Staging
- Pedestrian Access During Construction

BDE SPECIAL PROVISIONS

- Pavement Marking Removal
- Temporary Pavement Marking
- Traffic Control Devices - Cones

ADJUSTMENTS AND RECONSTRUCTIONS

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

“602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020.”

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

“Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

“603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.06 to read:

“603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

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.

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

COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)					
Grad No.	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 BACKFRILL 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.

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011
 Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) 1030
- (j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 \pm 15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)''

Revise Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)
Thickness at inside edge	Height of casting ± 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer’s specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03.”

FRICITION AGGREGATE (D-1)

Effective: January 1, 2011
 Revised: November 1, 2019

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	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase Shoulders	or <u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}

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

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 High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		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.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE (D-1)

Effective: November 1, 2019

Description. This work shall consist of constructing a hot-mix asphalt (HMA) binder and/or surface course on a prepared base. Work shall be according to Sections 406 and 1030 of the Standard Specifications, except as modified herein.

Materials. Revise Article 1004.03(c) to read:

“ (c) Gradation. The coarse aggregate gradations shall be as listed in the following table.

Use	Size/Application	Gradation No.
Class A-1, A-2, & A-3	3/8 in. (10 mm) Seal	CA 16 or CA 20
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & A-3	Cover Coat	CA 14
HMA High ESAL	IL-19.0; Stabilized Subbase IL-19.0	CA 11 ^{1/}
	SMA 12.5 ^{2/}	CA 13 ^{4/} , CA 14, or CA 16
	SMA 9.5 ^{2/}	CA 13 ^{3/4/} or CA 16 ^{3/}
	IL-9.5	CA 16
	IL-9.5FG	CA 16
HMA Low ESAL	IL-19.0L	CA 11 ^{1/}
	IL-9.5L	CA 16

1/ CA 16 or CA 13 may be blended with the CA 11.

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/ The specified coarse aggregate gradations may be blended.

4/ 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.”

HMA Nomenclature. Revise the “High ESAL” portion of the table in Article 1030.01 to read:

“High ESAL	Binder Courses	IL-19.0, IL-9.5, IL-9.5FG, IL-4.75, SMA 12.5, Stabilized Subbase IL-19.0
	Surface Courses	IL-9.5, IL-9.5FG, SMA 12.5, SMA 9.5”

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 Department’s Qualified Producer List, “Technologies for the Production of Warm Mix Asphalt (WMA)”.

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

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA 12.5		SMA 9.5		IL-9.5mm		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 ^{4/}	16	32 ^{4/}	34 ^{5/}	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/}
#635 (20 μm)			≤ 3.0		≤ 3.0					
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 N_{design} = 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/ 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.
- 5/ 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, for IL-4.75 it shall be 3.5 percent and for Stabilized Subbase it shall be 3.0 percent at the design number of gyrations. The voids in the mineral aggregate (VMA) and voids filled with asphalt binder (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 High ESAL				
	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
Ndesign	IL-19.0; Stabilized Subbase 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.”

Revise the table in Article 1030.04(b)(3) to read:

“VOLUMETRIC REQUIREMENTS, SMA 12.5 ^{1/} and SMA 9.5 ^{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/}	75 - 83
		16.0 ^{3/}	

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.”

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 steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours.”

Quality Control/Quality Assurance (QC/QA). Revise the third paragraph of Article 1030.05(d)(3) to read:

“If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the QC/QA document "Determination of Random Density Test Site Locations". Core densities shall be determined using the Illinois Modified AASHTO T 166 or T 275 procedure.”

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

“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.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the second table in Article 1030.05(d)(4) and its notes to read:

“DENSITY CONTROL LIMITS			
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-9.5FG	Ndesign = 50 - 90	93.0 – 97.4 %	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 = 80	93.5 – 97.4 %	91.0%

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade.”

Equipment. Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm);
- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”

Construction Requirements.

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller1101.01”

Revise the third paragraph of Article 406.05(a) to read:

“All depressions of 1 in. (25 mm) or more in the surface of the existing pavement shall be filled with binder. At locations where heavy disintegration and deep spalling exists, the area shall be cleaned of all loose and unsound material, tacked, and filled with binder (hand method).”

Revise Article 406.05(c) to read.

“(c) Binder (Hand Method). Binder placed other than with a finishing machine will be designated as binder (hand method) and shall be compacted with a roller to the satisfaction of the Engineer. Hand tamping will be permitted when approved by the Engineer.”

Revise the special conditions for mixture IL-4.75 in Article 406.06(b)(2)e. to read:

“e. The mixture shall be overlaid within 5 days of being placed.”

Revise Article 406.06(d) to read:

“(d) Lift Thickness. The minimum compacted lift thickness for HMA binder and surface courses shall be as follows.

MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19) - over HMA surfaces ^{1/} 1 (25) - over PCC surfaces ^{1/}
IL-9.5FG	1 1/4 (32)
IL-9.5, IL-9.5L	1 1/2 (38)
SMA 9.5	1 3/4 (45)
SMA 12.5	2 (51)
IL-19.0, IL-19.0L	2 1/4 (57)

1/ The maximum compacted lift thickness for mixture IL-4.75 shall be 1 1/4 in. (32 mm).”

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

"TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Binder and Surface ^{1/}	V _D , P ^{3/} , T _B , 3W, O _T , O _B	P ^{3/} , O _T , O _B	V _S , T _B , T _F , O _T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA ^{4/ 5/}	T _B , 3W, O _T	- -	T _F , 3W, O _T	
Bridge Decks ^{2/}	T _B	- -	T _F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder."

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

"O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m)."

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).

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 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 at the beginning of each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

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 second through the fifth paragraphs of Article 406.14 with the following:

“HMA binder and surface courses will be paid for at the contract unit price per ton (metric ton) for MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS; HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE (HAND METHOD), of the Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, of the mixture composition, friction aggregate, and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and Ndesign specified; POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition, friction aggregate, and Ndesign specified.”

PUBLIC CONVENIENCE AND SAFETY (D-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: November 1, 2019

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 Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Central Bureau of Materials 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, 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 mixture composition of the mix design.
- (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (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, 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 HMA (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 Central Bureau of Materials 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	
	FRAP	RAS
% Passing: ^{1/}		
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
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, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
 - (2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
 - (3) RAP from Class I, 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 Central Bureau of Materials 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 listed below for a given N Design.

Maximum Asphalt Binder Replacement (ABR) for FRAP with RAS Combination

HMA Mixtures <i>1/ 2/ 4/</i>	Maximum % ABR			
	Ndesign	Binder ^{5/}	Surface ^{5/}	Polymer Modified ^{3/}
30L		50	40	30
50		40	35	30
70		40	30	30
90		40	30	30
SMA				30
IL-4.75				40

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 %.
- 5/ When the mix has Illinois Flexibility Index Test (I-FIT) requirements, the maximum percent asphalt binder replacement designated on the table may be increased by 5%.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing 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.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

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

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 and agglomerated material.

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) FRAP. The coarse aggregate in all FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.
- (b) 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.
- (c) 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).
- e. RAS and FRAP weight to the nearest pound (kilogram).
- f. Virgin asphalt binder weight to the nearest pound (kilogram).
- g. 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 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 Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".
- (b) 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 μ m) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

STATUS OF UTILITIES (D-1)

Effective: June 1, 2016

Revised: January 1, 2020

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information regarding 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.

UTILITIES 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 below; 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.

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
20+10 to 20+47 LT	ELEC	EXISTING COMED SIDEWALK VAULT TO BE RECONSTRUCTED TO ACCOMMODATE BLUESTONE PAVER SIDEWALK	COMED	EXISTING VAULT ROOF TO BE RECONSTRUCTED AND LOWERED 30 DAYS
21+10, 18.6' LT	FIBER	EXISTING AT&T LINE IN CONFLICT WITH PROPOSED LANDSCAPING. LINE TO BE RELOCATED.	AT&T	EXISTING FIBER LINE TO BE RELOCATED 15 DAYS
16+10, 20.7' LT 19+54, 18.1' LT 21+65, 18.2' LT 43+28, 29.6' LT	WATER	VARIOUS FIRE HYDRANTS TO BE REMOVED AND RELOCATED	VILLAGE OF OAK PARK	NOT CONTROLLING. INCLUDED IN CONTRACT
PROEJCT LIMITS	WATER SANIT	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	VILLAGE OF OAK PARK	NOT CONTROLLING. INCLUDED IN CONTRACT
PROJECT LIMITS	ELEC GAS FIBER	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	COMED NICOR AT&T	MANHOLE FRAMES TO BE ADJUSTED DURING CONSTRUCTION 5 DAYS

STAGE 2, 3A, 3B, 4A, 4B, 4C, 4D

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
PROEJCT LIMITS	WATER SANIT	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	VILLAGE OF OAK PARK	NOT CONTROLLING. INCLUDED IN CONTRACT
PROJECT LIMITS	ELEC GAS FIBER	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	COMED NICOR AT&T	MANHOLE FRAMES TO BE ADJUSTED DURING CONSTRUCTION 5 DAYS

Stage 5

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
41+70 LT	ELEC	EXISTING COMED SIDEWALK VAULT TO BE RECONSTRUCTED TO ACCOMMODATE BLUESTONE PAVER SIDEWALK	COMED	EXISTING VAULT ROOF TO BE RECONSTRUCTED AND LOWERED 30 DAYS
PROEJCT LIMITS	WATER SANIT	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	VILLAGE OF OAK PARK	NOT CONTROLLING. INCLUDED IN CONTRACT
PROJECT LIMITS	ELEC GAS FIBER	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS LIMIT WILL NEED MINOR GRADE ADJUSTMENTS	COMED NICOR AT&T	MANHOLE FRAMES TO BE ADJUSTED DURING CONSTRUCTION 5 DAYS

Stage 6

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
PROEJCT LIMITS	WATER SANIT	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	VILLAGE OF OAK PARK	NOT CONTROLLING. INCLUDED IN CONTRACT
PROJECT LIMITS	ELEC GAS FIBER	VARIOUS UTILITY MANHOLES THROUGHOUT THE STAGED LIMITS WILL NEED MINOR GRADE ADJUSTMENTS	COMED NICOR AT&T	MANHOLE FRAMES TO BE ADJUSTED DURING CONSTRUCTION 5 DAYS

Stage 1: 50 Days Total Installation
 Stage 2: 05 Days Total Installation
 Stage 3: 05 Days Total Installation
 Stage 4: 05 Days Total Installation
 Stage 5: 35 Days Total Installation
 Stage 6: 05 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	Phone	E-mail address
Nicor	Bruce Koppang	630-388-3046	bkoppan@southernco.com
ComEd	Carla Strunga	815-409-8622	Carla.Strunga@ComEd.com
AT&T	Bruce Robbins	815-412-5254	br1831@att.com
Comcast	Robert Stoll	224-229-5849	Robert_Stoll@comcast.com
Wide Open West	Jennifer Ekeberg	847-951-5384	jekeberg@hbkengeering.com
Verizon	Joseph Farwell	--	joseph.farwell@verizonwireless.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 owner's part can be secured.

Stage 1, 1A, 1B, 1C

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
12+20, 14.5' LT 19+85, 11' LT 19+85, 11' RT 20+62, 11' LT 20+62, 11' RT 31+22, 15' LT	FIBER	EXISTING AT&T DUCT PACKAGES MAY BE POTENTIAL CONFLICT WITH STORM SEWERS AND CATCH BASINS	AT&T	EXISTING DUCT PACKAGE TO BE WATCHED AND PROTECTED DURING INSTALLATION OF STORM SEWERS AND CATCH BASINS
15+74, 12.6' LT 15+97, 12.6' LT 19+42, 10.7' RT 21+21, 9.7' LT	FIBER	EXISTING AT&T DUCT PACKAGES MAY BE POTENTIAL CONFLICT WITH WATER MAIN APPURTENENCES	AT&T	EXISTING DUCT PACKAGE TO BE WATCHED AND PROTECTED DURING INSTALLATION OF WATER MAIN APPURTENENCES
20+37, 30' RT 20+72, 30' RT 30+25, 18.8' RT	GAS	EXISTING GAS MAIN MAY BE POTENTIAL CONFLICT WITH LANDSCAPING ELEMENTS	NICOR	EXISTING GAS MAIN TO BE WATCHED AND PROTECTED DURING INSTALLATION OF LANDSCAPING ELEMENTS
29+81, 18.6' RT 30+90, 19.1' RT	GAS	EXISTING GAS MAIN MAY BE POTENTIAL CONFLICT WITH PROPOSED STORM SEWERS AND CATCH BASINS	NICOR	EXISTING GAS MAIN TO BE WATCHED AND PROTECTED DURING INSTALLATION OF STORM SEWERS AND CATCH BASINS
30+77, 37' RT	GAS	EXISTING GAS MAIN MAY BE POTENTIAL CONFLICT WITH PROPOSED TRAFFIC SIGNAL FOUNDATION	NICOR	EXISTING GAS MAIN TO BE WATCHED AND PROTECTED DURING INSTALLATION TS FOUNDATION

Stage 5

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
42+96, 22' RT	GAS	EXISTING GAS MAIN MAY BE POTENTIAL CONFLICT WITH PROPOSED STORM SEWER AND CATCH BASIN	NICOR	EXISTING GAS MAIN TO BE WATCHED AND PROTECTED DURING INSTALLATION OF STORM SEWERS AND CATCH BASINS
42+96, 22' RT	ELEC	EXISTING ELECTRIC FACILITY MAY BE POTENTIAL CONFLICT WITH PROPOSED STORM SEWER AND CATCH BASIN	COMED	EXISTING GAS MAIN TO BE WATCHED AND PROTECTED DURING INSTALLATION OF STORM SEWERS AND CATCH BASINS

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	Phone	E-mail address
Nicor	Bruce Koppang	630-388-3046	bkoppan@southernco.com
ComEd	Carla Strunga	815-409-8622	carla.Strunga@ComEd.com
AT&T	Bruce Robbins	815-412-5254	br1831@att.com
Comcast	Robert Stoll	224-229-5849	robert_Stoll@comcast.com
Wide Open West	Jennifer Ekeberg	847-951-5384	jekeberg@hbkengineering.com
Verizon	Joseph Farwell	--	joseph.farwell@verizonwireless.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 considered 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 above 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 duration 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 when necessary. The Department's contractor is responsible for contacting J.U.L.I.E. prior to all excavation work.

TEMPORARY PAVEMENT

Description. This work shall consist of constructing a temporary pavement 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.

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 or tons.

Basis of Payment. This work will be paid for at the contract unit price per square yard or ton for TEMPORARY PAVEMENT and TEMPORARY PAVEMENT (VARIABLE DEPTH), respectively. Removal of temporary pavement and temporary pavement (variable depth) will be paid for at the contract unit price per square yard for PAVEMENT REMOVAL.

ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED)

Description. This work shall be in accordance with Section 670 of the Standard Specifications for Road and Bridge Construction.

Add the following sentence after the second sentence of Article 670.01:
The location shall be an office or storefront in the Village of Oak park within ½ mile of the project.

PROTECTION OF BUILDINGS

The Contractor shall take all necessary precautions for the protection of corporate or public property, such as walls and foundations, vaults underground and overhead structures, trees, shrubbery, crops and fences contiguous to the work, for which the Contract does not provide for removal or specify precautions.

Whenever public or private property is so damaged or destroyed, the Contractor shall restore such property to a condition equal of that existing before the damage was done by repairing, rebuilding, or replacing it as directed by the Engineer. If the Contractor fails to do so, the Engineer may, after the expiration period of 48 hours, rebuild or otherwise restore such property as may be deemed necessary, and the cost thereof shall be deducted from any compensation due under this or any other contract between the Village and the Contractor.

PROTECTION OF DECORATIVE MATERIALS

The Contractor shall protect all existing and proposed decorative materials including brick pavers, bluestone pavers, special sidewalk, special curb, granite curb planters and seatwalls, light poles, mast arms, etc. from JULIE paint marks. The Contractor shall use the joint meet process to provide detailed utility locating instructions for any underground locates in these areas.

The Contractor shall be responsible for cleaning restoring, or replacing any damaged or defaced decorative materials as a result of this work as directed by the Engineer at no additional cost to the Contract.

DRIVEWAY STAGING

Description.

This work shall consist of preparing staging plans for each driveway located throughout the corridor to ensure access is maintained for each property based on their needs and requirements.

The Contractor shall coordinate with the Engineer to determine acceptable times for driveway closures. The Contractor shall also submit a staging plan, including proposed traffic control measures, for each driveway throughout the corridor for review by the Engineer.

The Contractor may not begin any driveway work until the Engineer reviews and approves the staging plan. Property owners must be notified at least 48 hours in advance of scheduled work.

Basis of Payment.

This work will not be measured for payment but shall be included in the cost of the proposed driveway items. No further compensation will be made for coordination and staging plan submittals. No cause for delay will be warranted for work included in approved staging plans. Traffic control items included in approved staging plans will not be measured for payment, but shall be included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL).

PEDESTRIAN ACCESS DURING CONSTRUCTION

Description. The following special provision shall outline the requirements for pedestrian access during construction to ensure pedestrian mobility and pedestrian safety at all times.

Pedestrian Access Work Plan

When a Pedestrian Access Route (PAR) is temporarily closed by construction, alterations, maintenance operations, or other conditions, an alternate pedestrian access route (APAR) complying with sections 6D.01, 6D.02, and 6G.05 of the MUTCD shall be provided. Before the Contractor may begin work for each stage, he/she must submit to the Engineer a detailed pedestrian access plan showing locations/sequence of work, how pedestrian access will be maintained, how businesses access will be maintained at all times, and how the below requirements are met.

The Engineer must approve the submitted pedestrian access plan before staged work may commence. In addition, the Contractor may be required to revise the pedestrian access plan as required by the Engineer based on actual pedestrian traffic patterns and conditions or scheduled events in the Business Districts. The Engineer reserves the right to reject or revise proposed pedestrian access plans if requirements are not met. No additional compensation shall be allowed for revisions or modifications to approved pedestrian access plans if deemed necessary by the Engineer for safety or public convenience.

Maintenance of a Clear and Accessible Pedestrian Corridor

The Contractor or permittee shall maintain an accessible corridor that provides at least one safe path of travel for all pedestrians on each side of Lake Street and through signalized intersections at all times for the duration of the project.

1. Pedestrian corridor shall be a nominal width of 6' whenever feasible, and shall conform to ADAAG guidelines. It shall not be less than 48" wide at single point of contact or obstruction.
2. Accessible pedestrian corridor shall connect with facilities throughout the project area.
3. Equipment, debris, construction materials or vehicles shall not obstruct the corridor.
4. Temporary closure of designated pedestrian routes and crossings shall be allowed only when flaggers are present and safely directing pedestrians around hazards.

Construction of Signposts, Barricades, and Fencing

Barricades that are impenetrable shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. The Contractor shall use materials and methods suitable to site conditions that shall be approved by the Engineer. Signs and fencing material shall not protrude into the clear pathway.

1. The Contractor shall use linking pedestrian barricades that must be approved by the Engineer prior to installation. Linking pedestrian barricades must be connected to each other to form a continuous pedestrian barrier. (Examples: TrafFix - ADA Wall, Crowd Control Warehouse - ADA Pedestrian Barricade, or Barrier Warehouse - Strongwall ADA Pedestrian Barricade).

2. The Contractor shall use jersey wall barriers (PCC or Water Filled Plastic) meeting NCHRP-350 requirements, to be approved by the Engineer, if any pedestrian access routes are adjacent to traffic lanes. Impact attenuators, if deemed necessary by the Engineer, shall be Test Level 2, and shall not be measured for payment.
3. Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.
4. Fencing material requires a minimum 3' height, solid, uninterrupted toe-board.
5. Signposts, scaffolding and fencing supports shall be placed entirely outside the pedestrian path of travel, minimum 4' wide and 80" high without obstruction.
6. Construction barriers shall be maintained in a sound, neat and clean condition.

Surfacing of Pedestrian Corridors

During construction, tripping hazards and barriers for people with mobility impairments must be removed to maintain an accessible pedestrian corridor.

1. Any change of level, which exceeds 1/4" height, must be beveled at 45°.
2. The Contractor shall utilize concrete, asphalt, plywood, or steel plates for the pedestrian corridor. Aggregate will NOT be allowed as a pedestrian corridor surface.
3. Closed trenches, temporary paving surfaces, walking surfaces, steel plates; etc. shall have a smoothly finished, firm walking surface made even with surrounding walkways.
4. Aisle or loading area adjacent to a parking space is part of the pedestrian corridor.

Temporary Ramps Conforming to Accessibility Standards

The Contractor or permittee shall install and maintain temporary concrete, asphalt or wood ramps to provide a safe path of travel for mobility-impaired pedestrians at all locations where ramps have been temporarily removed OR needed to route pedestrians.

1. Temporary ramps shall be constructed so installation and removal will not damage existing pavement, curb and/or gutter.
2. Ramps shall have a minimum 4' wide walking surface and a slope not to exceed 8%.
3. Ramps shall snugly meet existing surfaces without gaps.
4. When required for drainage, schedule 40 PVC pipe minimum 2" diameter shall be installed through ramp.
5. Transitions between ramps and the street surface shall be smooth such that no lip exists at the base of the ramp.
6. Sides of a ramp shall be protected where there is any drop-off.

Identification of Safe Path of Travel

If a portion of the pedestrian way is rerouted due to construction, the path of travel shall be clearly defined with barricades and signage. The Engineer shall review any pedestrian access limitations and notification requirements for pedestrians with mobility or vision impairments.

1. Paths of travel that DO NOT continue to the next corner or to a safe crosswalk shall be closed to pedestrian traffic. Signs must be posted stating the sidewalk is closed and detour pedestrians to accessible sidewalk.
2. Pedestrian access corridors shall be clearly delineated with barricades, as approved by the Engineer.

3. If a crosswalk is closed, curb ramps leading into that crosswalk must be barricaded in such a manner that walkways that are not closed remain accessible to use.
4. Caution Tape shall NOT be used by itself to delineate the path of travel or create a barricade.
5. The contractor shall provide flaggers as directed by the Engineer to ensure uninterrupted access to existing facilities is maintained during construction activities.

Temporary Information Signing

Wayfinding Signage may be required to identify access routes to commercial, retail, parking, and residential entities impacted by staged construction. Wayfinding signage shall be approved and installed according to TEMPORARY INFORMATION SIGNING special provision and as directed by the Engineer prior to implementation of a staged construction access plan. The below signs are anticipated to be used during construction. The number and locations shall be determined by the Engineer. The Contractor shall coordinate with the Engineer for more information on text, colors, and graphics of proposed temporary wayfinding signs.



Parking (Left) 30" x 30"



Parking (Straight) 30" x 30"



Parking (Right) 30" x 30"



Peds (Left) 18" x 24"



Peds (Straight) 18" x 24"



Peds (Right) 18" x 24"

Wayfinding Signage will be measured for payment as TEMPORARY INFORMATION SIGNING. All other MUTCD signs deemed necessary by the Engineer, such as R9-9, R9-10, R9-11, and R9-11a, will not be measured for payment, but shall be included in the cost of TRAFFIC CONTROL AND PROTECTION, SPECIAL.

Restoration of Pedestrian Routes

After construction, the site shall be returned to its former condition, or new condition as required.

1. Temporary ramps shall be removed as soon as construction and approval of permanent ramp is completed.
2. After work is completed, surface of the pedestrian path shall be restored free from all ridges, gaps, bumps and rough edges.
3. Construction that affects existing curb ramps shall include replacement or repair of the curb ramp to meet current Village standards.

Scheduled Events and Requirements

1. *Thursday Night Out* – Marion Street from North Boulevard to Lake Street
 - Scheduled for every Thursday from May till the end of August. This event will close Marion Street south of Lake Street to all traffic.
 - All of the sidewalks and corner curb ramps on the south side of Lake Street at the Marion Street intersection shall be open and accessible by 3 pm each Thursday and the intersection and sidewalks at Lake Street and Marion Street shall be swept clean.
2. *Wednesday Morning Movie Series* – Lake Street Theater
 - Scheduled event typically from the start of June through early August on Wednesdays
 - The Contractor shall allow for bus access into the work zone to unload and load passengers at the Lake Street Theater at 1022 Lake Street. Drop-off is typically around 9 am with pickup after a movie around 11:30, depending on the length of the movies.
 - The Contractor shall coordinate with the Engineer locations for bus drop-off as close to the Theater as possible. There shall be a safe and ADA compliant pathway from the bus drop-off area to the Theater entrance during these times.
3. *Day in Our Village* - Lake Street from Grove Avenue to Oak Park Avenue
 - Scheduled event for June 7, 2020
 - All sidewalks adjacent to Scoville Park shall be open and accessible and the area from Grove to Oak Park Ave shall be broom cleaned and in neat order. No work from Kenilworth Avenue to Euclid Avenue will be allowed on the day of the event.
4. *Arts Dans La Rue* – Marion Street south of Lake Street
 - Scheduled event that is typically on a Tuesday in early August
 - All of the sidewalks and corner curb ramps on the south side of Lake Street at the Marion Street intersection shall be open and accessible by 3 pm the day of the event and the intersection and sidewalks at Lake Street and Marion Street shall be swept clean. This event will close Marion Street south of Lake Street to all traffic.

5. *Uncork Illinois* – Marion Street from North Boulevard to Lake Street
 - Scheduled event that is on a Saturday to be determined in June with setup on Friday
 - All of the sidewalks and corner curb ramps on the south side of Lake Street at the Marion Street intersection shall be open and accessible by 3 pm the Friday before the event and the intersection and sidewalks at Lake and Marion shall be swept clean. No work within 100 feet of the Marion intersection will be allowed the day of the event. This event will close Marion Street south of Lake Street to all traffic.
6. *Oak Park Microbrew Review* – South Marion and Lake / South Forest Ave and Lake
 - Scheduled event that is on a Saturday to be determined in August (typically mid-August).
 - All of the sidewalks and corner curb ramps on the south side of Lake Street at the Marion Street intersection and the Forest intersection shall be open and accessible by 3 pm the Friday before the event and the intersection and sidewalks at Lake and Marion and Lake and Forest shall be swept clean. No work within 100 feet of the Marion intersection or Forest Avenue intersection with Lake Street will be allowed the day of the event.
7. *Oaktoberfest* – South Marion and Lake / South Forest Ave and Lake
 - Scheduled event that is typically the 3rd Saturday in September.
 - All of the sidewalks and corner curb ramps on the south side of Lake Street at the Marion Street intersection and Forest Avenue intersection shall be open and accessible by 3 pm the Friday before the event and the intersection and sidewalks at Lake and Marion and Lake and Forest shall be swept clean. No work within 100 feet of the Marion intersection or Forest Avenue intersection with Lake Street will be allowed the day of the event.

The Contractor shall modify his/her work plans as directed by the Engineer if any additional scheduled events not listed above occur. No additional compensation shall be allowed for accommodating events not listed above. The Engineer shall have full authority to stop work when any hazardous conditions are present. The Contractor shall not begin any work until the Engineer deems the conditions are safe to pedestrians and or vehicles and gives permission to the Contractor to resume work. No compensation will be made for any delays from work stoppage caused by hazardous conditions.

Basis of Payment. This work shall not be measured for payment, but shall be included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL). This shall include all labor, materials, equipment, coordination, and staging plan submittals to complete this work as shown or as directed by the Engineer.

TEMPORARY BRIDGE (PEDESTRIAN ACCESS)

Description. This item shall consist of providing a secure and safe temporary bridge and/or ramp for pedestrian access to properties, such as businesses and residential buildings, as required and as directed by the Engineer, during construction. Business and residential access shall be maintained at all times during construction, unless otherwise approved by the Engineer.

General. The temporary bridge/ramp shall be wood frame and plywood constructed or approved prefabricated aluminum or steel. The Contractor must provide protection from any drop off adjacent to the temporary access. The temporary access shall meet all ADA requirements with regard to dimensions, longitudinal and transverse grades, skid resistance, handrails, and all other applicable criteria.

The Contractor shall submit shop drawings for wood or prefabricated bridges to the Engineer for review and approval prior to construction. The Contractor will be responsible for the observation and protection of temporary access locations at all times throughout the duration of the project: Modification to installed temporary bridges may be required due to changing conditions during construction. No additional compensation shall be allowed for any modifications to installed temporary bridges deemed necessary by the Engineer. The Contractor shall also be responsible for the installation and maintenance of signage and other items to provide safe pedestrian access.

All work involving pedestrian access shall be governed by the following requirements:

1. Work shall be planned to reduce disruption to the commercial business or public seeking to access these businesses and residential buildings.
2. Construction activities shall not block pedestrian access to adjacent store fronts during normal business hours.
3. The Contractor shall notify affected residents and businesses 48 hours in advance of sidewalk removal.
4. At no time shall access to emergency or fire exits be disrupted without prior approval from the Village of Oak Park Fire Department. Alternative access points will need to be coordinated and accommodated with all residential/commercial buildings and the Fire Department prior to the approval of a temporary bridge structure and subsequent construction activities.

Method of Measurement. This work shall be measured for payment on a per each basis for each entrance where a temporary bridge is utilized during construction, as required and as directed by the Engineer.

Basis of Payment. This work shall be paid for under the contract unit price per each for TEMPORARY BRIDGE installed and maintained at each commercial or residential building location, which shall include all labor, materials and equipment to install, maintain, modify, and remove the temporary bridge. No further compensation will be made for coordination and temporary bridge plan submittals. No cause for delay will be warranted for the work included in approved temporary bridge plans.

MAINTENANCE OF EXISTING RECEPTACLES

The Contractor shall be responsible for maintaining access to the existing trash and recycling receptacles throughout the work zone. Receptacles should remain easily accessible to the Village of Oak Park's (VOP) maintenance crews as well as pedestrian traffic.

Once the proposed receptacles are installed and accessible, the Contractor shall coordinate with the VOP to determine which existing receptacles are salvageable. Salvageable receptacles shall be delivered to the VOP Public Works facility or other location as directed by the Engineer. Non-salvageable receptacles shall be disposed of by the Contractor off-site.

This work will not be measured for payment but will be included in the cost of various removal items in the contract.

DELIVERIES AND GARBAGE COLLECTION

The Contractor shall coordinate with the Engineer to ensure deliveries and garbage collection services will be accommodated during construction. The Contractor shall provide access to Lake Street for delivery and garbage trucks during closures as required and as directed by the Engineer. The Contractor may propose alternate means and methods to accommodate these services, however, they must be approved by the Engineer.

No additional compensation will be allowed for labor, materials, or equipment necessary to accommodate these services. No additional compensation will be allowed for any delays in work caused by accommodating these services.

POLICE, FIRE, AND AMBULANCE SERVICES

The Contractor shall coordinate with the Engineer to ensure police, fire, and ambulance services will be accommodated during construction. The Contractor shall provide access to Lake Street for emergency services during closures and at the end of each work day as required and as directed by the Engineer. The Contractor shall ensure there is a continuous hard surface and a minimum lane width of 12' available for emergency vehicles at the end of each work day.

No additional compensation will be allowed for labor, materials, or equipment necessary to accommodate emergency services. No additional compensation will be allowed for any delays in work caused by accommodating emergency services.

CONTRACTOR PARKING RESTRICTIONS

The Contractor's and Sub-Contractor's employees shall not, at any time, park in any on street parking spaces that are available to the public during the project. The Contractor's and Sub-Contractor's employees shall be limited to parking in adjacent parking garages or within the designated roadway closures.

MATERIAL STORAGE

The Contractor shall maintain a clean and organized jobsite. All spoils and construction debris that are not removed by the end of the work day shall be blocked off by barricades or fencing, to be approved by the Engineer, to ensure pedestrian safety.

All construction material shall be neatly stored and protected per manufacturers' recommendations. All construction material shall be blocked off by barricades or fencing, to be approved by the Engineer, at the end of the work day to ensure pedestrian safety.

No additional compensation will be allowed for labor, materials, or equipment necessary to complete this work.

SAW CUTS

Any and all saw cuts necessary to complete the work as shown in the plans or as directed by the Engineer shall not be measured for payment but shall be considered included in the cost of the various removal items and the various proposed roadway items.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

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

Contract Specific Sites. The excavated soil and groundwater within the areas listed below shall be managed as either "uncontaminated soil", hazardous waste, special waste, or non-special waste. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

Site #1: Intersection of Harlem Avenue (IL Route 43) and Lake Street

- Station 10+00 to Station 10+50 (CL Lake Street), 0 to 220 feet LT and 0 to 230 feet RT, all excavation associated with ADA improvements (Harlem Avenue [IL Route 43] and Lake Street, Oak Park). This material meets the criteria of revised Article 669.05(a)(5) and shall be managed in accordance with revised Article 669.05. Potential contaminants of concern sampling parameters: VOCs, SVOCs and Metals.

Site #2: Lake Street

- Station 41+00 to Station 44+15 (CL Lake Street), 0 to 40 feet LT and 0 to 40 feet RT, all excavation. This material meets the criteria of revised Article 669.05(a)(5) and shall be managed in accordance with revised Article 669.05. Potential contaminants of concern sampling parameters: VOCs, SVOCs and Metals.

Work Zones

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

Additional information on the above sites is available from the Village of Oak Park.

REMOVE EXISTING BRICK PAVERS

Description. This work shall consist of the complete removal and disposal of existing brick pavers and brick paver base courses, if applicable, in sidewalk, driveway, and pavement locations shown in the plans and as directed by the Engineer. Removal of the existing brick shall be performed in accordance with the applicable portions of Section 440 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for REMOVE EXISTING BRICK PAVERS. This price shall include all necessary labor, material and equipment necessary to complete the work.

REMOVE AND REINSTALL BRICK PAVERS

Description. This work shall consist of the removal and reinstallation or replacement of existing Brick Pavers. Removal of the existing brick pavement shall be performed in accordance with the applicable portions of Section 440 of the Standard Specifications.

The contractor shall be responsible for storage and protection of bricks after removal. Any damaged or non-re-useable bricks shall be replaced with bricks of matching dimension and color at no additional cost to the contract. The contractor shall be responsible for placing a new setting bed of a material matching the existing setting bed. Where the existing setting bed is a bituminous material, refer to BRICK PAVERS Special Provision for installation and material requirements. Where sand is used, contractor shall use FA-1 or FA-2 gradation sand according to Section 1003 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for REMOVE AND REINSTALL BRICK PAVERS. This price shall include all necessary labor, material and equipment necessary to complete the work.

BRICK PAVER REMOVAL AND REINSTALLATION, SPECIAL

Description. This work shall consist of the removal and reinstallation or replacement of existing bluestone pavers and shall match the existing stone pattern layout. Removal of the existing pavers and PCC base course shall be performed in accordance with the applicable portions of Section 440 of the Standard Specifications.

The contractor shall be responsible for storage and protection of bluestone pavers after removal. Any damaged or non-re-useable pavers shall be replaced with pavers of matching dimension and color at no additional cost to the contract. The contractor shall be responsible for placing a new granular subbase, 5 inch PCC base course, and sand setting bed in accordance with PAVER BLOCKS, SPECIAL Special Provision for installation and material requirements. The cost of these items as well as any additional new paver blocks required to complete the work shall be included in the cost of BRICK PAVER REMOVAL AND REINSTALLATION, SPECIAL.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for BRICK PAVER REMOVAL AND REINSTALLATION, SPECIAL. This price shall include all necessary labor, material and equipment necessary to complete the work.

RAISED PLANTER REMOVAL

Description. This work shall consist of the complete removal and disposal of the existing raised PCC planters as specified herein, as shown on the plans, and as directed by the Engineer.

In addition, any foundations, underdrains, irrigation systems, along with any other related appurtenances shall be removed, disassembled, and disposed of off-site.

Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract unit price per foot for RAISED PLANTER REMOVAL. The price shall include any necessary excavation, backfill, disposal of materials, including labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

PLANTER REMOVAL

Description. This work shall consist of the complete removal and off-site disposal of the existing potted planters as specified herein, as shown on the plans, and as directed by the Engineer. The Contractor shall coordinate with the Engineer and Village to determine if any planters are deemed salvageable, and if so, shall be delivered to the Village of Oak Park Public Works at no additional cost to the contract.

Method of Measurement and Basis of Payment. This work shall be paid for at the contract lump sum price for PLANTER REMOVAL. The price shall include all labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

TREE GRATE REMOVAL

Description. This work shall consist of the complete removal and disposal of existing tree grates as specified herein, as shown on the plans, and as directed by the Engineer.

In addition, any foundations, concrete boundary ribbons, and related appurtenances shall be removed, disassembled, and disposed of off-site.

Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Basis of Payment. This work shall be paid for at the contract unit price per each for TREE GRATE REMOVAL. The price shall include any necessary excavation, backfill, disposal of materials, including labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

BOLLARD REMOVAL

Description. This work shall consist of the complete removal and disposal of existing bollards as specified herein, as shown on the plans, and as directed by the Engineer.

In addition, any post foundations, cable wires, along with all connectors and related appurtenances shall be removed, disassembled, and disposed of off-site.

Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Basis of Payment. This work shall be paid for at the contract unit price per each for BOLLARD REMOVAL. The price shall include any necessary excavation, backfill, disposal of materials, including labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

HOT-MIX ASPHALT SURFACE REMOVAL (VARIABLE DEPTH)

Description. This work shall consist of milling the existing hot mix asphalt pavement at varying depths as indicated on the plans. This work shall be in accordance with Section 440 of the Standard Specifications.

The Contractor shall mill to depths indicated at the proposed edge of pavements and centerline as shown in the cross-sections of the plans, or as approved by the Engineer. No additional payment will be made for an increase in POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-4.75, N50 quantity due to milling depths greater than what is shown on the plans.

Basis of Payment. This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL (VARIABLE DEPTH).

PARKING METER POSTS TO BE REMOVED

Description. This work shall consist of the removal and disposal or salvage of existing parking meter posts as specified herein, as shown on the plans, and as directed by the Engineer. In addition, any post foundations, cable wires, along with all connectors and related appurtenances shall be removed, disassembled, and disposed of off-site.

Contractor will coordinate with the Village of Oak Park 72 hours in advance of post removal and allow the Village to remove the parking meter heads prior to the posts being removed. The Contractor shall coordinate with the Engineer for the salvage and delivery of meter posts that also function as bicycle racks to the Village of Oak Park Public works.

Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Basis of Payment. This work shall be paid for at the contract unit price per each for PARKING METER POSTS TO BE REMOVED. The price shall include any necessary excavation, backfill, disposal or salvage of materials, including labor, equipment, and materials to complete the work described herein.

BICYCLE RACKS TO BE MOVED

Description. This work shall consist of the complete removal and disposal of existing bike racks as specified herein, as shown on the plans, and as directed by the Engineer.

All existing stainless steel circular bike racks shall be salvaged and delivered to the Village of Oak Park Public Works. The remaining bike racks to be removed shall be properly disposed of off-site.

In addition, any foundations and related appurtenances shall be removed, disassembled, and disposed of off-site. Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Basis of Payment. This work shall be paid for at the contract unit price per each for BICYCLE RACKS TO BE MOVED. The price shall include any necessary excavation, backfill, disposal of materials, delivery of salvaged items, including labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

UTILITY PIPE REMOVAL

Description. This work shall consist of furnishing equipment, labor, tools, and materials necessary for the removal and satisfactory disposal of existing abandoned utility pipe at the locations shown on the plans or as directed by the Engineer and in accordance with applicable portions of Section 551 of the Standard Specifications, except trench backfill will not be measured for payment.

Abandoned utility pipe, including the abandoned 4", 6" and 8" steam line as shown on the plans, shall be cut with a saw and removed whenever encountered during installation of proposed roadway items.

The ends of the newly cut/exposed utility pipe shall be plugged with class SI concrete or brick and suitable mortar to the satisfaction of the Engineer. This work will not be paid for separately, but shall be considered as included in the contract unit price for UTILITY PIPE REMOVAL.

Method of Measurement and Basis of Payment. This item shall be paid for at the contract unit price per foot for UTILITY PIPE REMOVAL. This cost shall include removal and disposal of the existing abandoned utility pipe and subgrade materials, plugging newly cut openings, and trench backfill.

PIPE UNDERDRAIN REMOVAL

Description. This work consists of furnishing equipment, labor, tools, and materials necessary for the removal and satisfactory disposal of existing pipe underdrains at the locations shown on the plans or as directed by the Engineer and in accordance with Section 551 of the Standard Specifications.

Existing pipe underdrains connected to drainage structures that are to remain shall be removed up to the structure and the opening shall be plugged with class SI concrete or brick and suitable mortar to the satisfaction of the Engineer.

Method of Measurement and Basis of Payment. This item shall be paid for at the contract unit price per foot for PIPE UNDERDRAIN REMOVAL. This cost shall include removal and disposal of the existing pipe underdrain and subgrade materials, plugging existing connections to drainage structures to remain, and trench backfill.

DRAINAGE STRUCTURE TO BE REMOVED

Description. This work consists of furnishing equipment, labor, tools, and materials necessary for the removal and satisfactory disposal of existing inlets, catch basins, and manholes, at the locations shown on the plans or as directed by the Engineer and in accordance with Section 605 of the Standard Specifications.

Existing storm sewer connected to drainage structures proposed to be removed shall be abandoned. Abandoned sewers and drains, as designated by the Engineer, shall be plugged with class SI concrete or brick and suitable mortar to the satisfaction of the Engineer.

This work will not be paid for separately, but shall be considered as included in the contract unit price for drainage structures to be removed.

Method of Measurement and Basis of Payment. This item shall be paid for at the contract unit price per each for DRAINAGE STRUCTURE TO BE REMOVED. This cost shall include removal and disposal of the existing drainage structure and subgrade materials to the final subgrade elevation required to construct the proposed drainage structure and/or sub-base. The cost shall also include trench backfill.

FRAME AND LIDS TYPE 1, OPEN/CLOSED

Description. This work shall consist of furnishing and installing lids on proposed drainage and utility frames in accordance with Section 604 of the Standard Specifications and as revised or amended in this special provision.

Materials.

Type 1 open lids shall be according to Article 604.02 and Standard Detail 604001 except open lids shall have a radial opening pattern unless in an ADA ramp area.

Type 1 closed lids shall be according to Article 604.02 and Standard Detail 604001 except shall have a closed pick hole and gasketed seal.

Closed lids shall have the word "Water" for valve vaults, "Storm" for storm drains, "Sewer" for combined sewer, or "Sanitary" for sanitary manholes.

The Contractor shall submit shop drawings of lids to the Engineer for approval.

Construction Requirements.

Lids shall be installed on proposed frames at location shown on the contact plans and as directed by the Engineer.

Method of Measurement

This work will not be measured for payment. LIDS, TYPE 1 OPEN LID and LIDS, TYPE 1 CLOSED LID shall be included in the contract unit price for the proposed drainage structure or manhole.

FRAME AND LID ADJUSTMENTS

Description. This work shall consist of adjusting frame and lids of various structure types throughout the project limits by an elevation of 2 feet or less to final grade.

All structures to be adjusted that are located within decorative pavement, including brick pavers or bluestone pavers, shall be fitted with a chimney seal, which shall be included in the cost of the proposed adjustment items. Existing chimney seals may be adjusted and reused if considered suitable for reuse by the Engineer.

This work shall otherwise be performed in accordance with the applicable portions of IDOT "Standard Specifications" Section 602. A maximum of 12 inches of concrete adjusting rings will be allowed.

Method of Measurement. This work will be measured per each for a manhole adjusted to proposed grade, complete and in-place.

Basis of Payment. This work will be paid for at the contract unit price per each for the various adjustment pay items including, SANITARY MANHOLES TO BE ADJUSTED, VALVE VAULTS TO BE ADJUSTED, CATCH BASINS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, OPEN LID, which price shall include all labor, equipment, and material, including new chimney seals where required, to complete the work.

FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)

Description. This work shall consist of adjusting frame and lids of various structure types throughout the project limits located within the resurfacing sections according to District One Detail BD-8 "Frames and Lids Adjustment with Milling".

Add the following to BD-8:

All sanitary structures to be adjusted shall be fitted with an internal or external chimney seal, which shall be included in the cost of the proposed adjustment item. Existing chimney seals may be adjusted and reused if considered suitable for reuse by the Engineer.

Method of Measurement. This work will be measured per each for frames and lids adjusted with milling.

Basis of Payment. This work will be paid for at the contract unit price per each for FRAMES AND LIDS TO BE ADJUSTED (SPECIAL), which price shall include all labor, equipment, and material, including new chimney seals where required, to complete the work as specified in the plans, specifications, and District One Detail BD-8.

STORM SEWER INSTALLATION

Description. This work includes the construction of combination storm and sanitary sewers and appurtenances, furnishing and installation of all Tee, Wye, and Tee/Wye fittings for storm sewer connections, together with all joint materials and the de-watering of trench, temporary fluming, by-passing, diversion pumping, testing, video inspection, and all other work as may be deemed necessary for the complete installation.

This work shall be in accordance with applicable paragraphs of Sections 208, 550, and 1000 of the Standard Specifications, applicable sections of Standard Specifications for Water and Sewer Main Construction in Illinois, plan details and as revised or amended in this special provision as follows:

General Construction Requirements.

A. Maintenance of Existing Sewers:

Flow in existing sewers that are to be repaired, abandoned or connected to the sewer system shall be maintained without interruption during the work. The contractor shall maintain in service all house sewer and water service connections, and temporary service shall be provided at all times. Facilities for fluming and diversion shall be provided as required or directed. No sewage shall be pumped to the ground. Sewage shall not be permitted to back up into house services and cause nuisance or damage to connected buildings.

The cost of temporary fluming, bypassing, diversion pumping and related work shall not be paid for separately, but shall be considered incidental to the sewer installation work.

The removal and disposal of the existing combined, storm, or sanitary sewer within the proposed sewer trench is considered incidental to this item.

B. Trench Excavation:

During any one working day, the contractor shall excavate such trenches that will have the sewer installed and backfilled during the day. No such trenches shall be left open at the end of the working day. It shall be temporarily backfilled until construction resumes. Immediately following the backfilling of trenches, all excavation material shall be hauled off the job site and disposed of by the contractor at his own expense.

C. House Sewer and Storm Sewer Connections

Where a house sewer connection is to be made to a proposed sewer, a pre-formed Tee/Wye or Tee branch pipe section of proper diameter shall be installed in the sewer at the junction. The branch shall have an inside diameter of 6 inches unless otherwise specified on the plans or by the Engineer in the field. The main run of the fitting shall be the same inside diameter as the proposed sewer. The use of saddle Tees and saddle Wyes will not be permitted unless otherwise approved by the Engineer. No core cutting of the proposed sewer main will be allowed unless otherwise approved by the Engineer.

Where an existing or proposed storm sewer or drain connection is to be made to a proposed sewer, a pre-formed Wye branch pipe section of proper diameter shall be installed in the sewer at the junction. The branch shall have an inside diameter of 6 inches unless otherwise specified on the plans or by the Engineer in the field. The main run of the fitting shall be the same inside diameter as the proposed sewer. The use of saddle Tees and saddle Wyes will not be permitted unless otherwise approved by the Engineer. No core cutting of the proposed sewer main will be allowed unless otherwise approved by the Engineer.

Abandoned sewers and drains, as designated by the Engineer, shall be plugged with class SI concrete or brick and suitable mortar to the satisfaction of the Engineer. This work will not be paid for separately, but shall be considered as included in the contract unit price for storm sewers.

Materials.

The pipe material used shall be water main grade PVC SDR 25 AWWA C-900, PVC SDR 26 ASTM-D2241, or as shown on plans, meeting IEPA requirements. This material will be used in lieu of Ductile Iron Sewer Pipe.

House Connections and Storm Sewer Connections:

Pre-formed Tees/Wyes or Tees for house sewer connections and preformed Wyes for storm sewer connections shall be of the same material as the proposed sewer main. Branch sizes shall be 6 inches for house sewer connections and 8 inches for storm sewer connections unless otherwise specified on the plans or by the Engineer. All fittings shall be free from cracks and shall adhere tightly to each joining surface. No coring of the proposed sewer main will be allowed unless approved by the Engineer.

Bedding Material:

Pipe bedding shall be provided for all Sewer and Water Main Installation $\frac{1}{4}$ of the outside diameter of the pipe **but not less than four inches (4")** below the bottom of the pipe. For PVC pipe, the backfill material to a level twelve inches (12") over the top of the pipe shall be of the same material as the bedding material specified above, and shall be carefully placed in eight-inch (8") layers, loose measurement and compacted. Bedding other than concrete embedment shall consist of crushed stone, $\frac{1}{4}$ " to 1" in size. As a minimum, the material shall conform to the requirements of Article 1004.01 of the "Standard Specifications of Road and Bridge Construction" of the State of Illinois or ASTM C-33. The gradation shall conform to gradation CA 11 or CA 13 of the Illinois Standard Specifications or to ASTM Gradation No. 67. **This material will not be paid for separately, nor will separate payment be made for excavation.**

Method of Measurement.

Sewer pipe of different types and sizes shall be measured by the lineal foot along the center line of the pipe in place. When the sewer enters a manhole, catch basin, or, inlet, the measurement shall end at the inside wall of each manhole, catch basin, or, inlet. No payment for sewers shall be made through an inlet, catch basin, or manhole where each structure is paid for as separate items. Measurement by counting lengths of pipe shall not be allowed.

Trench backfill will be based on actual field measurement of the excavated trench width and depth not exceeding the maximum dimensions allowed in the Article 550.04 of the State Standard Specifications. For purposes of estimating and checking yield, one (1) cubic yard of trench backfill compacted in place equals approximately 3,000 pounds, or 1.5 tons.

Basis of Payment.

This work will be paid for at the contract unit price per lineal foot of STORM SEWERS (SPECIAL) of the type and diameter specified and per cubic yard for TRENCH BACKFILL, which price shall include all material, labor, and equipment necessary to install sewers complete or as specified herein, including all necessary trench excavation below the existing pavement, and cleaning.

CATCH BASINS, TYPE A, 4' DIAMETER, TYPE 1 FRAME, OPEN LID

Description. This item consists of furnishing and installing catch basins in accordance with the plans and details, Article 602 of the Standard Specifications, and this Special Provision.

Material and Construction Requirements.

1. The bottom and barrel section of the catch basin shall be constructed as a single concrete unit. The unit shall be either pre-cast or cast in place.
2. A **Half Trap** shall consist of either an eight (8) inch diameter preformed PVC half trap, or constructed in the field with two eight (8) inch 45 deg bends and a length of eight inch PVC pipe to make the difference between inverts greater than the diameter of the pipe.
3. Final frame elevation adjustments shall be done with the use of precast concrete adjustment rings and/or mortar. No other alternative materials may be used without prior approval of the engineer.
4. All construction unit joints, pipe joints, and lifting holes are to be sealed satisfactorily with appropriate materials as necessary to prevent basin sump water leakage and/or external ground water infiltration. The catch basin shall hold a constant level of water at the top of the outlet trap for a minimum of 24 hours.
5. Rubber boot(s) shall be fitted into the wall of the precast barrel section for making the connection(s) to and from other drainage structures, and or the main sewer.
6. Connections made to and from the catch basin shall be by means of a circular core cut only. The wall of the basin shall be core cut to the size necessary to insert and grout a rubber boot for the connecting pipe(s). The connection shall be made in accordance with all material manufacturers' requirements.

Method of Measurement.

1. Payment for the half trap shall be considered included in the cost of CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID, SPECIAL.
2. Rubber boot(s) shall be considered included in the cost of the catch basin.
3. Adjustment rings, which may be necessary to complete the installation, will not be paid separately, but shall be considered included in the cost of the catch basin.

Basis of Payment. This work shall be paid for at the contract unit price per each for CATCH BASINS, TYPE A, 4' DIAMETER, TYPE 1 FRAME, OPEN LID, SPECIAL. The unit prices shall include all excavation below the existing pavement, granular cushion, and backfill. Pavement removal and replacement as required for the installation of the catch basins and storm sewer under the roadway will be paid for separately. The unit prices shall include all labor and materials necessary to complete the installation as specified herein.

CONNECTION TO EXISTING SEWER

Description. This work shall consist of connecting a lateral combined, storm, or sanitary sewer to an existing sewer main by means of a preformed tee or wye section of appropriate size inserted into the existing sewer or an existing sewer lateral by means of a non-shear band coupling in accordance with the plans and this Special Provision.

Construction Requirements. A section of existing sewer main shall be cut out and replaced with a tee or wye connector section. The cut out section of the existing sewer main shall be no longer than ½ Inch to 1 Inch longer than the proposed tee or wye section. The tee or wye connector shall be of the same material and nominal inside diameter as the existing sewer main except when the existing sewer main is clay. The tee or wye shall be PVC SDR 26 meeting ASTM D-3034 or D-2241 as directed by the Engineer when the existing sewer main is clay. The inserted connector joints shall be sealed with two band seal couplings with stainless steel non-shear rings.

The Contractor shall core cut existing sewer mains to make connections when directed by the Engineer. The core cut shall be the size necessary to insert a flexible connector meeting ASTM C-923. The connector shall be submitted to the Engineer for approval and include a mechanical stop method to prevent intrusion of the lateral pipe into the sewer main. No connectors shall be used without prior approval from the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per EACH for CONNECTION TO EXISTING SEWER of the size specified, which price shall be payment in full for all material, labor, and equipment necessary to perform this operation.

CONNECTION TO EXISTING DRAINAGE STRUCTURE

Description. This work shall consist of making a connection to an existing structure at locations shown on the plans in accordance with the applicable portions of Section 602 and 550 of the Standard Specifications.

Construction Requirements. The Contractor shall core cut the existing structure to the size necessary to insert a flexible manhole connector meeting ASTM C-923 for the connecting pipe. The annular space between the connecting pipe and the flexible manhole connector shall be filled with hydraulic cement up to the centerline of the pipe. Non-shrink grout may be used to fill the annular space for ductile iron, cast iron, and reinforced concrete pipes.

The Contractor shall notify the Engineer when the existing structure cannot be cored due to existing openings or conditions. The Contractor shall saw cut and remove portions of the existing structure to provide a minimum of 6-inches of clearance on all sides of the proposed pipe. The Contractor shall install a waterstop grout ring according to the manufacturer's instructions. The waterstop grout ring shall be approved by the Engineer. The Contractor shall frame and pour Portland cement concrete to completely fill the void and a minimum of 6" outside of the wall of the structure.

Basis of Payment. This work will be paid for at the contract unit price per each for CONNECTION TO EXISTING DRAINAGE STRUCTURE which price shall be payment in full for all labor, equipment and material necessary to render the connection complete.

SANITARY MANHOLES TO BE ADJUSTED

Description. This work shall consist of adjusting sanitary manholes by an elevation of 2 feet or less to final grade. Sanitary manholes to be adjusted shall be fitted with a chimney seal. Existing chimney seals may be adjusted and reused if considered suitable for reuse by the Engineer. This work shall otherwise be performed in accordance with the applicable portions of IDOT "Standard Specifications" Section 602. A maximum of 12 inches of concrete adjusting rings will be allowed.

Method of Measurement. This work will be measured per each for a manhole adjusted to proposed grade, complete and in-place.

Basis of Payment. This work will be paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED which price shall include new chimney seals where required.

MAINTENANCE OF DRAINAGE

Description. This work shall consist of maintenance of drainage throughout the project limits. When existing drainage facilities are disturbed, the Contractor shall provide and maintain temporary outlets and connections for all private or public drains, sewers, or structures. The Contractor shall provide facilities to take in all storm water which will be received by these drains and sewers and discharge the same.

The Contractor shall provide and maintain an efficient pumping plant, if necessary, temporary ditches, outlets, and connections. He/she should be prepared at all times to dispose of the water received by these ditches, drains and sewers from temporary connections until such time as the permanent connections with ditches or sewers are built and in service.

Basis of Payment. This work shall be in accordance with Cook County and local municipality guidelines and will not be paid for separately, but shall be included in the various drainage items in the contract.

EXPLORATION TRENCH, SPECIAL

Description. This work shall consist of constructing a trench for the purpose of locating existing drain tiles and/or utility facilities. The exploration trench shall be constructed at the locations indicated in the plans or as directed by the Engineer.

The depth of the trench shall be variable. The width of the trench shall be sufficient to allow proper investigation of the entire trench. After the trench has been inspected by the Engineer, the excavated material shall be used to backfill the trench in a manner satisfactory to the Engineer. Any excess materials shall be disposed of according to Article 202.03 of the Standard Specifications.

Method of Measurement. The exploration trench will be measured for payment in feet of actual trench constructed.

Basis of Payment. This work will be paid for at the contract unit price per foot for EXPLORATION TRENCH, SPECIAL.

ROD AND TRACE EXISTING SANITARY SERVICE

Description. This work shall consist of furnishing all labor, material, and equipment necessary to rod and trace existing sanitary services located throughout the project limits to determine potential conflicts with proposed lighting and traffic signal foundations.

General Requirements. The Contractor shall furnish all labor, material, tools, and equipment necessary to accurately locate existing sanitary services in the vicinity of proposed lighting and traffic signal foundations as Directed by the Engineer.

The Contractor shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified. The Engineer and Contractor shall coordinate with all necessary property owners to gain access into the building in order to rod the property's existing sanitary service(s) from the building to the sewer main.

The Contractor shall locate the existing sanitary service from the building to the combination sewer main. Once located, the Contractor shall utilize green spray paint to mark the alignment of the sanitary service. The Contractor and Engineer shall determine if there are any conflicts with proposed lighting and traffic signal foundations with the located existing sanitary services. If necessary, the proposed foundations shall be relocated to a new location, as directed by the Engineer, to avoid all sanitary services.

Due to the adjacent Lake Street Utility Improvements Project, this work is not anticipated to be necessary from Grove Avenue to Euclid Avenue, with one exception for 714 Lake Street (AT&T).

The Contractor shall work in an orderly and safe manner to ensure protection of the local residents, the Engineer, and the field staff.

Equipment. The Contractor shall submit a list of all equipment to be used to the Engineer for approval, prior to work commencing.

Method of Measurement of Basis of Payment. This work shall be measured for payment per each. This work shall be paid for at the contract unit price per each for ROD AND TRACE EXISTING SANITARY SERVICE and shall include all labor, material, tools, equipment, and coordination with property owners necessary to complete the work as specified.

WATER MAIN LEAK DETECTION SURVEY AND REPORT

Description. This work shall consist of furnishing all labor, material, and equipment necessary to perform a leak detection survey of the water distribution system in areas throughout the project limits and develop a report outlining suspected leak locations.

General Requirements. The Contractor shall furnish all labor, material, tools, and equipment necessary to survey the water distribution system areas as Directed by the Engineer. The Contractor shall be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified. Valves and hydrants shall not be operated by the Contractor without the Public Works Department approval. The Contractor shall be responsible for any valves and hydrants that break during this type of operation. The Contractor shall ensure there will be a minimum of two persons per team working on the survey at all times. The Contractor shall work in an orderly and safe manner to ensure protection of the local residents, the Engineer, Public Works employees, and the field staff so that no avoidable accidents occur.

Equipment. The Contractor shall submit a list of all leak detection equipment to be used to the Engineer for approval, prior to work commencing.

Survey Schedule. In resurfacing sections, the leak detection survey shall be completed after polymerized hot-mix asphalt binder course has been placed and before the final hot-mix asphalt surface course has been placed. In full reconstruction sections, the leak detection survey shall be completed after the aggregate subgrade improvement has been placed and before hot-mix asphalt binder or PCC base course has been placed. The Contractor shall coordinate with the Engineer to determine the exact survey schedule during construction.

Inspection Requirements. The Contractor shall initially listen to all fire hydrants, all accessible main line valves, and all service connections in the entire distribution system by making physical contact with the valve, hydrant, pipe, or B-box. If listening points are not accessible they shall be given to the Public Works Department and when corrected they shall be listened to. Listening points of contact will be: valves, hydrants, service valves or meter settings. The preference of listening points in order as follows; direct contact with the pipe, main line valves, hydrant valves, hydrants, then service valves or meter settings.

Specific listening distances will be determined by pipe material. Metallic type pipes; no greater than 500' between listening points. Non-Metallic AC/Concrete type pipes; no greater than 300' between listening points. Non-Metallic PVC/HDPE type pipes; no greater than 150' between listening points.

A "suspected leak" log shall be maintained indicating all areas where suspected leak noises were heard. This log shall be reviewed when the Contractor is verifying the suspected leak area for confirmation of the actual existence of a leak. This log shall be a part of the periodic reports turned into the Engineer regardless of an actual leak located in the area or not, with an explanation of the noise source. When leak noise has been detected and or suspected, the Contractor shall verify the suspected area a second time to confirm the noise. At least four hours will pass between the initial listening of the area before a second listen and confirmation is attempted.

The Contractor shall line locate the water main and service lines in the immediate area so the correct pipe distances can be input into the leak correlator and so that the Contractor will have an idea of where the water main is located prior to excavation. The Contractor shall use approved Electronic Leak Correlators to determine if a leak is present and use the same equipment to pinpoint the leak.

The leak location shall be marked in the field (on the surface) using blue paint. No paint shall be applied to decorative surfaces or appurtenances.

The Contractor shall document all leak locations with a diagram indicating the location of the leak. Other information related to that correlation shall be included as part of the field sheet such as the filters used for the correlation, line locations, distances between sensors, etc.

The locations of leaks requiring immediate attention (immediate threat to life, injury or traffic) shall be turned in as quickly as possible to the Engineer to facilitate the repair process.

The Contractor shall report daily or per request of the Engineer, progress of the previous day, as well as cover what will be surveyed the current day.

It may be necessary to conduct parts of the Leak Survey during "off hours" such as at night. This may be required in areas of high traffic volume where traffic noise may affect the ability to detect leak noise, and traffic volume may affect the ability of the Contractor to be able to safely access main line valves in the middle of the street. The Contractor shall give at least a 24-hour advanced notice to the Engineer the intent to survey a particular area that may require after hours surveying or nighttime surveying.

As a part of the leak detection survey, mapping discrepancies found and distribution assets found in disrepair shall be noted and turned into the Engineer.

Leaks shall also be verified on a customer's side of a service shut-off shall. If a leak appears to be on the Customers' side, the Engineer and Public Works department shall be notified first, then the customer notified. The Engineer must approve all water shuts downs prior to work commencing.

Final Reports, Documentations & Communications. The Contractor shall meet daily with Engineer to go over areas of survey for prior workday and planned current day areas to survey. The field technicians shall be readily available by cellular phone, if needed.

The Contractor shall diagram all leak locations, date of location, and classify according to severity and an estimate of loss. The Contractor shall meet with the Engineer regularly for a progress report. The use of progress reports and meetings will allow for open discussions of problems encountered so solutions can be examined.

The Contractor shall develop a Leak Survey Log of activity which shall also have confirmed leaks listed. This list shall be turned in weekly to the Engineer in a professional and organized format. The list shall be included with the final report.

The final report shall include the following.

1. Mechanical deficiencies discovered
2. Mapping errors on the water atlas
3. Type of monitored appurtenances
4. Location of leaks

The Contractor shall prepare the final report at the completion of the inspection which will include all leak location reports with drawings, total of estimated water loss, total pipe distance investigated, a description of the area surveyed, and other problems found in the system during the course of the survey that need the attention of the Public Works Department. The leak summary will list leak types such as main leaks, service line leaks, valve leaks, or hydrant leaks.

The final report shall be made available to the Engineer within ten (10) working days of the completion of the fieldwork.

Method of Measurement of Basis of Payment. This work shall be measured for payment on a lump sum basis.

Basis of Payment. This work shall be paid for at the contract lump sum price for LEAK DETECTION SURVEY AND REPORT and shall include all labor, material, and equipment to complete the work as specified or as Directed by the Engineer

FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE

This work shall include the furnishing and installation of fire hydrant to grade, auxiliary valve, valve box, fittings, mechanical joint restraints, zinc coated ductile iron pipe, polyethylene encasement, thrust blocks, all excavation, bedding, drain boxes, trench backfill, concrete supports and anchors, and all appurtenant work as required for a complete installation as shown in the plans or as directed by the Engineer. This work shall be in accordance with the details shown on the plans and the latest edition of the Standard Specifications for Sewer and Water Construction in Illinois.

CONSTRUCTION REQUIREMENTS

A. Fire Hydrant Assembly

1. The Contractor shall install the fire hydrant so that the traffic flange is 2 inches above the finished grade. The finished grade shall be a true line from the top of curb to the sidewalk.
2. The hydrant shall be American Flow Control's Waterous Pacer Hydrant Traffic Model WB-67-250. The hydrants shall come painted in standard red. The hydrant shall have a 6-inch internal connection, and a 6-inch flanged base connection. The Village of Oak Park requires two 2 ½ " hose nozzles with one 4" pumper nozzle with no cap chains. The nozzles shall open counter clockwise. The bury depth shall be 6'-0" unless otherwise shown on plans or directed by the engineer. This hydrant is called "OAK PARK SPECIAL" by the Waterous Company.

3. The auxiliary valve shall be a 6-Inch diameter wedge gate valve rated for 250 p.s.i.g. cold water working pressure, have a ductile iron body with a modified wedge disc, have flanged and mechanical joint ends, and be a non-rising stem type valve. The valve shall be manufactured in accordance with AWWA Standard C515. Both mechanical joint ends shall comply with AWWA Standard C111 and ANSI Standard A21.11 specifications. Epoxy coatings shall comply with AWWA C550.
4. The valve box shall be American Flow Control's Trench Adapter Model #6 with grey iron lid.
5. All bolts and nuts shall be grade 404L stainless steel, annealed.
6. All material shall be approved by the engineer.

B. Ductile Iron Pipe and Fittings

The pipe and fittings shall have a nominal inside diameter of 6 inches and have a maximum offset of 12 inches. The offset fitting is to be installed at the tee of the water main for the fire hydrant at locations designated and as directed by the Engineer.

The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179. The mass of the zinc applied shall be 200 g/m² of pipe surface area. A finishing layer topcoat shall be applied to the zinc. The coating system shall conform in every respect to ISO 8179-1 "Ductile iron pipes - External zinc-based coating - Part 1: Metallic zinc with finishing layer. Second edition 2004-06-01."

All ductile iron watermain pipe shall conform to the dimension, weight, character of materials, allowable variations in diameters and thickness, method of manufacturing, marking and coating to ANSI/AWWA-C151/A21.51. The thickness of the pipes shall have a Class 52 standard wall thickness in accordance with ANSI/AWWA-C151/A21.51.

All joints shall be push-on joints and meet the requirements of ANSI/AWWA-C111/A21.11. All fittings shall be approved full body ductile iron mechanical joint fittings and meet AWWA-C110 and shall have a 250-psi pressure rating. Compact fittings and fittings not included in AWWA C110 shall not be used unless approved by the Engineer. All ductile iron watermain pipe shall have a cement mortar lining with a bituminous seal coat in accordance with ANSI/AWWA-C111/A21.1. Standard cement lining shall be no less than 1/16-inch on all pipe up to 12-inch diameter, and 3/16-inch thick on all pipe 14-inch through 24-inch diameter. Exterior of pipe and fittings used in submerged or buried applications shall be shop coated with a bituminous coating not less than 1.0 mil thick.

Bolts and nuts shall be 5/8-inch in size and shall be Grade 304L stainless steel, annealed. Nuts must be teflon coated to prevent galling during storage.

The watermain shall be laid on a well compacted flat bottom trench, true and even, so that the barrel of the pipe will have a bearing for its full length. Unless otherwise directed, watermain pipe shall be laid with the bell ends facing the direction of laying. When the grade exceeds 2-foot of rise per 100-feet of trench, the bells shall face up-grade. Bell holes shall be excavated for all joints and be 4-inches in depth and extend 6-inches in front of the face of the bell. Any part of the trench excavated below grade shall be corrected with granular material and thoroughly compacted. The minimum cover of the pipe shall be five (5) feet.

At all times when pipe laying is not in progress, the open ends of the pipe shall be closed by a water-tight plug or by other means approved by the Engineer. If there is water in the trench, the seal shall remain in place until the trench is pumped completely dry. No pipe shall be laid in water or when, in the opinion of the Engineer, trench conditions are not suitable.

All bends, caps, tees, plugs, valves, fittings and hydrants at a point in the pipeline where there is a change in direction or at a dead end shall be thrust blocked and restrained by the use of approved mechanical joint restraints. Thrust blocking shall be poured Portland Cement Concrete a minimum of 12-inches thick and shall be poured against firm material ground. They shall be formed so that the pipe joints are kept free from concrete.

For water main approaching or exiting any horizontal or vertical bend fitting, all push-on joints shall have locking gaskets

The Contractor shall give a minimum of forty-eight (48) hours' notice to the Village's Water and Sewer Superintendent for a request for a water shut-off so that the customers can be notified by the Village Water Department of any service interruption. The Village's Water and Sewer Superintendent shall determine the time and duration of the shut-off. The Contractor shall continue the work to complete and restore service to the interrupted main. No additional compensation will be given for overtime due to the hours of shut-off.

C. Polyethylene Encasement

To protect ductile iron pipe from the corrosive soil, all pipe shall be wrapped with V-Bio® Enhanced Polyethylene Encasement. Polyethylene encasement for use with ductile iron pipe shall meet all the requirements for ANSI/ AWWA C105/A21.5, Polyethylene Encasement for Ductile Iron Pipe Systems.

In addition, polyethylene encasement for use with ductile iron pipe systems shall consist of three layers of co-extruded linear low density polyethylene (LLD PE), fused into a single thickness of not less than 8 mils.

The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of anti-microbial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion.

Ductile iron pipe and the polyethylene encasement used to protect it shall be installed in accordance with AWWA C600 and ANSI/ AWWA C105/ A21.5 and also in accordance with all recommendations and practices of the AWWA M41, Manual of Water Supply Practices -Ductile Iron Pipe and Fittings. Specifically, the wrap shall be overlapped one foot in each direction at joints and secured in place around the pipe and any wrap at tap locations shall be taped tightly prior to tapping and inspected for any needed repairs following the tap.

Polyethylene installation shall be carried out in the following manner:

1. Pick up the pipe with a sling or pipe tongs. Slip a polyethylene tube which is approximately two feet longer than the pipe over the plain end and leave it bunched up accordion style.
2. Lower the pipe into the trench and make up the joint with the preceding pipe. Shallow bell holes are required to allow overlap of the tube at the joints.
3. Remove the sling or tong from the center of the pipe, raise the bell a few inches and slip the polyethylene tube along the pipe barrel, leaving approximately one foot of the tube bunched up at each end of the pipe for wrapping the joints.
4. Overlap each joint by first pulling one bunched-up tube over the bell, folding it around the adjacent plain end and securing it in place with two or three wraps of the polyethylene adhesive tape. Complete the overlap by repeating the same procedure with the bunched-up tube on the adjacent pipe.
5. Take up the slack tube along the pipe barrel by folding it over the top of the pipe holding the fold in place with polyethylene adhesive tape.
6. Repair any rips, punctures or other damage to the polyethylene with tape or by cutting open a short length of tube, wrapping it around the pipe and securing with polyethylene tape.
7. Installation of Polyethylene over fittings, valves, and piping specialties:
 - Fit bends, reducers and offsets with polyethylene tube in the same manner described above for pipe.
 - Wrap valves, tees, crosses and specialty items with a flat sheet obtained by splitting open a length of polyethylene tube. Pass the sheet under the valve or fitting and bring it up around the body. Join the seams by bringing the edges together, folding over twice and securing in place with polyethylene tape.

BASIS OF PAYMENT. This work will be paid for at the contract unit price per each for "FIRE HYDRANT WITH AUXILIARY VALVE, VALVE BOX AND TEE", which price shall be payment in full for all labor, materials and equipment necessary to complete the work as specified herein.

PRESSURE CONNECT TO EXISTING WATER MAIN

Description. This work shall consist of all labor, material and equipment required to connect the proposed water main to the existing main with a pressure connection at locations indicated on the Plans.

This work shall be as shown on the details and in accordance with the Illinois Water & Sewer Specifications. This item of work shall include furnishing a tapping sleeve, tapping resilient wedge valve and making a pressure tap to connect to an existing water main. Tapping sleeve shall be of cast iron material.

Materials. Water main and auxiliary valves shall be a resilient wedge gate valve rated for 250 psig cold water working pressure, have a ductile iron body with a modified wedge disc, have mechanical joint ends unless otherwise specified, and be a non-rising stem type valve. The valve shall be manufactured in accordance with AWWA Standard C515. Both mechanical joint ends shall comply with AWWA Standard C111 and ANSI Standard A21.11 specifications. Flanged ends shall comply with ANSI/AWWA C110/A21.10. Gate valves shall be epoxy coated according to AWWA C550.

Bolts and nuts shall be Grade 304L stainless steel, annealed.

Basis of Payment. This work shall be paid for at the contract unit price each for PRESSURE CONNECTION, of the size specified, which shall be payment in full for all labor, equipment, materials, and other work required to complete the installation of the water main connection including pipe, fittings, solid sleeve / flexible coupling, installation and pressure caps, thrust blocks, polyethylene encasement, excavation, trench backfill and legal disposal of all excess material.

FIRE HYDRANTS TO BE REMOVED

Description. This work consists of removing and disposing of fire hydrants at the locations shown in the Plans and directed by the Engineer. The auxiliary valve box must also be removed and disposed of off-site. Trenches shall be backfilled and properly compacted. The trenches shall be brought up to match the surrounding grade. The hydrant and associated pipe up to the cut and capped section shall be properly disposed of off-site.

Method of Measurement and Basis of Payment. This work shall be measured and paid for at the contract unit price per each for FIRE HYDRANTS TO BE REMOVED. Payment shall be full compensation for all materials, labor, tools, equipment and incidentals necessary to complete this work. Trench backfill, if required, shall be paid for separately as indicated in the plans.

CUT AND CAP EXISTING 6" WATER MAIN

Description. This work shall consist of cutting and capping the existing 6" water main at locations indicated on the plans or as directed by the Engineer.

This work shall be in accordance with applicable portions of section 561 and section 1000 of the Standard Specifications, applicable sections of the Standard Specifications for Water and Sewer Main Construction in Illinois and applicable sections of AWWA Standards. This work shall also include the removal and disposal or abandoning of the existing fire hydrant lead, as directed by the Engineer. Excavation and backfill of the trench shall be included in CUT AND CAP EXISTING 6" WATER MAIN. Backfill shall be according to Section 208 of the Standard Specification.

Basis of Payment. This work will be paid for at the contract unit price per each for CUT AND CAP EXISTING 6" WATER MAIN, which price shall be payment in full for all labor, materials and equipment necessary to complete the work as specified herein.

DRINKING FOUNTAIN REMOVAL AND REPLACEMENT

Description. This work shall consist of the removal and disposal of existing water fountains and the installation of new water fountains at locations shown on the plans in accordance with plan details. This work shall be in accordance with the latest version of the Standard Specifications for Sewer and Water Construction in Illinois.

Materials. Drinking Fountain shall be a black colored HAWS 3500D.

General Requirements. The Contractor shall provide all materials, labor, and completed equipment and piping for the drinking fountain system including drinking fountain, back, meter, buffalo boxes, valves, all piping, accessories, trenching and backfill where indicated on plans and as specified. The Contractor shall install the proposed drinking fountains according to the manufacturer's recommendations or as directed by the Engineer.

Submittals.

Prior to fabrication, Contractor shall submit for approvals four sets of printed shop drawings for the drinking fountain system. Shop drawings shall indicate locations, fabrication details, unit identification marks, reinforcement, connection details, dimensions, and relationship to adjacent materials. The Contractor shall submit operation/maintenance recommendations, spare parts, manuals, and warranties to the Owner. Contractor shall coordinate a static water pressure test with the Owner present and in accordance with the Owner's requirements.

Pipe and Water Valve Assembly.

All pipe between the water meter pit and the drinking fountain shall be Type K copper pipe. Size shall be as shown on the drawings.

Water valves shall be curb stops fabricated of brass and provided with outlets suitable for copper connections. Curb stops shall be of the round-way type conforming to AWWA Standard C800-89 Underground Service Line Valves and Fittings.

Excavation shall be in accordance with applicable portions of Section 202 of Standard Specifications. Excavation shall be limited to the area shown on the plans and details, or as directed by the Engineer. All shoring required shall be considered included in the cost of this item.

Curb Stops shall be housed in curb boxes. Curb boxes shall be screw type, with the base threaded to attach to the curb stop or shall be Buffalo or "arch" type, and of such construction that it shall be capable of extension to finished grade.

Base sections and lids shall be cast of heavy, high grade iron. "Water" shall be marked on lid. Curb stop and box shall be equipped with a shut-off rod, typically 2 inches shorter than the curb box at its maximum extension.

Water Meter in Vault.

The water meter type and brand shall be in accordance with the Village of Oak Park Standards and AWWA C-700. The vault shall be a precast concrete as shown on the details in accordance with section 504 of the Standard Specifications and as directed by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price per each for DRINKING FOUNTAIN REMOVAL AND REPLACEMENT. This price shall include all necessary labor, material and equipment necessary to complete the work as shown in the plans or as directed by the Engineer.

WATER SERVICE LINES

Description. This work shall consist of furnishing and installing water service lines of the required inside diameter, in accordance with the plans, the 7th edition of the Illinois Standard Specifications for Water and Sewer Construction in Illinois, and these special provisions.

Materials

Material and Pipe Specifications:

Diameter	1"	Soft Temper Copper, Type K
Diameter	2"	Soft Temper Copper, Type K

Construction Requirements. The requirements of the Illinois Department of Public Health shall govern the horizontal and vertical separation of water service lines from sewers.

Water services shall be of the size and type shown on the plans and shall be installed from the existing water main to the proposed curb stop. Service pipe shall be installed to provide a minimum of one foot (1 ft.) of slack.

Methods of Measurement. The maximum length of a water service line that will be measured for payment shall be along a straight line between the service tap on the water main and new and/or existing domestic water service box, plus three feet (3 ft.).

The three feet shall be measured as water service pipe of the specified size. If a service connection will require more water service pipe than the maximum measured for payment, the contractor shall immediately notify the Engineer of this and the contractor shall also fully document the lengths of water service pipe installed so that the actual lengths used may be measured for payment.

Basis of Payment. The work shall be paid for at the respective contract unit price per lineal foot for WATER SERVICE LINE of the diameter specified, which price shall include all excavation and disposal of unsuitable material, tunneling under roots, augering, backfilling, fittings and all other materials, labor, and equipment necessary for a complete pipe installation that meets the approval of the Engineer.

CORPORATION STOPS

Description. This work shall consist of furnishing and installing brass corporation stops on the existing water main for connecting to new water service lines at locations shown on the plans.

This work shall be in accordance with the details shown on the plans and the latest edition of the Standard Specifications for Sewer and Water Construction in Illinois. Corporation stops shall be approved by the engineer.

Corporation stops for 2" water service lines shall be installed with a stainless steel saddle.

Basis of Payment. This work will be paid for at the contract unit price per each for CORPORATION STOPS, of the size specified, which price shall include all excavation, disposal of unsuitable material, furnishing of corporation stops, fittings, and saddles, and all labor, material, and equipment to render the service operative.

CURB STOPS

Description. This work shall consist of furnishing and installing new curb stops with buffalo boxes for copper services of sizes shown on the plans. This work shall be in accordance with the details shown in the plans and the latest edition of the Standard Specifications for Sewer and Water Construction in Illinois. New buffalo boxes shall be approved the Engineer. Buffalo boxes for services to irrigation system shall be installed to finished grade and within the limits of the proposed planters, unless otherwise directed by the engineer.

Lids from the curb boxes shall be cast iron with brass plugs coated with an anti-seizing, galling and corrosion lubricant conforming to standard MIL-A-907E. Prior to applying this lubricant, the plug threads shall be cleaned removing all shipping and storage coatings.

Basis of Payment. This item work be paid for at the contract unit price per each for CURB STOPS, of the diameter specified, which shall include all excavation and disposal of unsuitable material, the furnishing of curb stops, fittings, buffalo boxes and all labor, material, and equipment necessary to render the service operative.

DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED

Description. This work shall consist of adjusting domestic water service boxes to match the proposed finished grade as directed by the Engineer, in accordance with Section 565 of the Standard Specifications. Top sections, extensions and/or caps compatible with the existing box, may be required to adjust the box to the final grade. Replacement of damaged caps shall be included in the cost of this item.

For boxes which are located in sidewalks or driveways constructed as part of this improvement, the contractor is responsible for confirming all caps and bolts can be opened after the concrete or asphalt has been placed.

For boxes located within bluestone paver area, the box shall be fully supported by PCC or non-shrink mortar between the PCC base course and the bottom of the lid to prevent settlement.

The Contractor shall confirm each roundway is keyable. If the Contractor cannot key the roundway, he shall notify the Engineer. After the work has been completed, the Contractor shall open each box in the presence of the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per each for DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED which shall be payment in full for all labor, equipment, and materials to perform the work as specified herein.

VALVE BOX FRAMES TO BE ADJUSTED

Description. This work shall consist of adjusting valve box frames to the proposed finished grades shown on the plans or as directed by the Engineer. This work shall be in accordance with Article 565, 602, and 603 of the Standard Specifications.

Basis of Payment. This work shall be paid for at the contract unit price per each for VALVE BOX FRAMES TO BE ADJUSTED, which shall include all materials, labor, and equipment for a complete adjustment to the satisfaction of the Engineer.

IRRIGATION SYSTEM

Description. This work includes installation of the irrigation system as indicated on the drawings and as specified herein.

Contractor shall submit required shop drawings for approval by the Engineer and the Owner prior to commencement of any work on this item that has changed from the original design.

This work shall include all labor, material, equipment, tools, transportation, permits, and services to construct the irrigation system as designed and per approved shop drawings, in accordance with sections 561, 562, 563, and 565 of the Standard Specification for Road and Bridge Construction and the Standard Construction Details, except as herein modified.

Sprinkler lines shown on the drawings are essentially diagrammatic. Spacing of the sprinkler heads or quick coupling valves are shown on the drawings and shall be exceeded only with the permission of the Engineer.

The irrigation system shall include a controlled valve distribution system. Contractor shall furnish and install equipment as common in the industry, associated piping and incidentals as shown and specified.

The system shall be installed such that water at no time run off or spray onto the pavement. Contractor is responsible for field adjustments and final spray head nozzles selections.

This work shall include monitoring and adjusting the completed system to assure healthy plant development.

Water Services.

Water Service Components must be installed prior to the installation of the irrigation system.

The Water Service Components to be provided by others are shown on the plans. Contractor is to verify existing water pressure at the main and notify the Engineer in writing if it is less than 47 psi static pressure.

The locations of Water Service Components are shown on the plans schematically. The location of the Water Service Components will need to be verified in the field.

Codes and Standards.

Codes: All plumbing work shall be installed within applicable provisions of the Oak Park building codes.

All devices and their installation must be in accordance with the Oak Park plumbing Code which incorporates Illinois Plumbing Code 2004 and Chicago Plumbing Code 2003.

Standards: Items listed to conform to ASTM, ANSI, or manufactures recommendations, for installation.

Any permits for the installation or construction of the work included under this contract which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the Contractor, each at the proper time. He shall also arrange for and pay all costs concerning any inspections and examinations required by these authorities.

In all cases where inspection of the sprinkler system work is required and/or where portions of the work are specified to be performed under the direction and/inspection of the Engineer, the Contractor shall notify the Engineer at least 72 hours in advance of the time and such inspection and/or direction is required.

Any necessary re-excavation or alterations to the system needed because of failure of the Contractor to have the required inspections, in the opinion of the Engineer, shall be performed at the "Contractor's" own expense.

Submittals.

Any required shop drawings for design changes shall be prepared by the Contractor. Submit drawings unless directed otherwise by the Engineer.

Material Sample List: Include backflow device, valves, sprinklers, controllers, enclosures, wire, wire connectors, pipe, fittings, valve boxes, swing joints and quick couplers to be used on the project prior to purchasing materials. Quantities of material need not be included. Submit paint sample chips for approval on the irrigation enclosure and RPZ/Meter enclosure.

Manufacturer's Data: Submit manufacturer's catalog cuts, specifications, and operating instructions for the equipment mentioned above and equipment shown on the materials list.

Project Record (As-Built) Drawings.

The Contractor is to provide the Owner a scaled drawing of the completed field "As-Built" of the system.

All components of the system are to be drawn and referenced to two fixed locations on the site.

Components of the system but not limited to, sprinkler heads, electric valves, isolation valves, all piping, quick couplers, pipe sizing, grounding, and communication wire routes from the controller to the electric valves including common runs, grounding.

All piping shall be referenced in the trench for lengths of run, change in direction and distance and locations of all components referenced in feet from a two known points.

Two final hard copies of the overall drawings with dimension and notes are to be provided to the Owner and one copy of the As-Built in AutoCAD 2018 digital format at the same scale drawing as provided to the Contractor. The Contractor is to provide individual controller sequencing sheets and as-builts in the original large scale format and 11x17". Both submittals shall be laminated and placed as directed by the Engineer.

Rules and Regulations.

Work and materials shall be in accordance with the latest edition of the National Electric Code, the Uniform Plumbing Code, and applicable laws and regulations of the governing authorities.

When the contract documents call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, provide the quality and size required by the contract documents.

Quality Assurance.

The Contractor shall maintain continuously a competent superintendent, satisfactory to the Engineer, with authority to act for him in all matters pertaining to the work. The Contractor shall coordinate his work with the other trades.

The Contractor shall confine his operations to the area to be improved and to the areas allotted him by the Engineer for material and equipment storage.

The Contractor shall have a minimum of 5 years' experience installing irrigation systems of comparable size and complexity. The contractor shall also have suitable financial status to meet obligations for this project.

The contractor is to be an Illinois Certified Irrigation Contractor(CIC). All plumbing components shall be installed by a licensed plumber.

Delivery, Storage and Handling.

Deliver irrigation system components in manufacturer's original undamaged and unopened containers with labels intact and legible.

Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends either threaded or plain. Store and handle materials to prevent damage and deterioration.

Provide secure, locked storage for valves, sprinkler heads and similar components that cannot be immediately replaced, to prevent installation delays.

Testing

Notify the landscape architect, Irrigation Consultant and City's representative three days in advance of testing.

Pipelines jointed with rubber gaskets or threaded connections may be subjected to a pressure test at any time after partial completion of backfill. Pipelines jointed with solvent-welded PVC joints shall be allowed to cure at least 24 hours before testing.

Subsections of mainline pipe may be tested independently, subject to the review of the landscape architect/Irrigation consultant/City's representative.

Furnish clean, clear water, pumps, labor, fittings, and equipment necessary to conduct test or retests.

Volumetric Leakage Test:

- Cap riser of mainline components for volumetric pressure tests. Backfill to prevent pipe from moving under pressure. Expose coupling and fitting.
- Purge all air from the pipeline before test.
- Subject mainline pipe to 90 PSI. Maintain constant pressure. Test complete system under full line pressure. Pressure must be maintained with less than 1 lbs. loss in the system for 4 hours. If the system does not hold pressure, repair leaks and retest system until the system maintains pressure.
- All necessary testing equipment shall be furnished by CONTRACTOR.
- Cement or caulking to seal leaks is prohibited.
- Test piping prior to backfilling.

Operational Test:

- Activate each remote control valve in sequence from controller. The landscape architect/Irrigation Consultant will visually observe operation, water application patterns, and leakage.
- Replace defective remote control valve, solenoid, wiring, or appurtenance to correct operational deficiencies.
- Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.
- Replace defective pipe, fitting, joint, valve, sprinkler, or appurtenance to correct leakage problems. Cement or caulking to seal leaks is prohibited.
- Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to the Owner.

Materials.

Manufacturers and Minimum Requirements.

Use materials that are new and without flaws or defects of any type, and which are the best of their class and kind. All material overages at the completion of the installation are the property of the Contractor and are to be removed from the site.

Each major component of equipment shall have manufacturer's name, address, catalog and serial number permanently attached in a conspicuous place.

The same brand or manufacturer shall be used for each specific application of valves, fittings, controls, and other equipment.

All materials shall be new and of the quality specified.

All equipment shall be listed, approved or rated by a nationally recognized testing and rating bureau of recognized manufacturer's association responsible for setting industry standards. All electrical equipment and apparatus shall be U.L. listed.

Acceptable irrigation manufacturers – as specified to be consistent with the Village's previous systems.

It is the intent of this specification to establish a uniform equipment pallet for this and phases of the project. There are existing products that the Village has indicated that there are certain products that they would like to maintain for consistency throughout the Village. Substitutions will only be allowed by the Engineer.

The products are available through Reinders Irrigation, Site One, Ewing Irrigation and Central Irrigation. There may other distributors that the product is available through, but these are four options for contractors to price components out from.

Sleeves

HDPE Mainline Piping and Open Trench Sleeving: All sleeves shall be consistent with the mainline HDPE materials. Pipe sleeving shall be equal to twice that of the pipe being sleeved. Minimum wire sleeve shall be 2" or as indicated.

Pipe sizes referenced in the construction documents are minimum sizes and may be increased at the option of the Contractor at no cost to the Owner.

All pipes damaged or rejected because of defects shall be removed from the site at the time of said rejection.

Galvanized Sleeves under Lake Street

Galvanized steel pipe: Use Schedule 40 conforming to ASTM Standard A120. Use galvanized, threaded, standard weight malleable iron fittings.

Pipe sizes referenced in the construction documents are minimum sizes and may be increased at the option of the Contractor at no cost to the Owner.

All pipes damaged or rejected because of defects shall be removed from the site at the time of said rejection.

Polyethylene Piping

Polyethylene Pipe-PE Lateral Lines for Driplines headers and bubblers: All polyethylene (PE) pipe shall be virgin, high impact, polyethylene pipe, having minimum 100 PSI working pressure rating, HD100 SDR-15 PE23 and Psi that is NSF approved. All polyethylene pipe shall be continuously and permanently marked with manufacturer's name, material, size, and schedule of type.

Pipe shall conform to U.S. Department of Commerce Commercial Standard CS207-60, at latest revision. Material shall conform to all requirements of Commercial Standard (CS256-63), at latest revision.

Polyethylene insert pipe fittings shall be constructed of Schedule 80 and shall conform to ASTM D2466. Polyethylene pipe shall be secured to fitting by means of two(2) stainless steel hose clamps for fittings of 1.5" and 2". Fittings 1" and smaller shall use two (2) stainless steel crimp clamp or approved methods. Saddle fittings are not allowed.

If conditions are appropriate and rock free for vibratory plowing, the contractor may plow lateral piping, but must get the Engineer's approval prior to installation.

All mainlines and sleeves are to have a metallic tracer tape placed 4"-6" from the surface. The tape shall be 3" wide and indicate buried water below. Sleeves shall have tape brought into and looped in all valve boxes just below the surface at the ends for ease of locating or terminated in valve boxes.

Mainline HDPE Pipe and Fittings:

HDPE Pipe:

Pipe shall be manufactured from a PE 4710/PE 3608 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material will meet the specifications of ASTM D3350-05 with a cell classification of PE 345464C. Pipe shall be manufactured to the dimensions and requirements of ASTM F714. Pipe shall be DR 13.5. The pipe shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All HDPE pipe shall be in straight lengths.

The supplier must be capable of manufacturing special fittings within its own manufacturing facility using a DataLogger.

The supplier must have the capability to train the contractor's employees in butt fusion, electrofusion and socket fusion of HDPE pipe and fittings.

The supplier must be capable of providing a "Hot Line" phone number to assist in fusion and fusion equipment questions.

The supplier must be capable of providing a trained representative on site upon the request of the contractor, owner or consultant to address any problems that are encountered during the installation.

The supplier must be capable to rent and service fusion equipment.

The supplier must furnish a written 5 year limited Warranty for HDPE pipe and fittings.

Mainline Fittings – HDPE Pipe:

Butt Fusion Fittings - Fittings shall be DR 13.5 PE4710/3608 HDPE, Cell Classification of PE 345464C as determined by ASTM D3350-05. Butt Fusion Fittings shall have a manufacturing standard of ASTM D3261. Molded & fabricated fittings shall have the same pressure rating as the pipe unless otherwise specified on the plans. Fabricated fittings are to be manufactured using a DataLogger. Reference to the DataLogger Quality Control records should be referenced from an indented stamp in each fusion bead of each fitting. Temperature, fusion pressure and a graphic representation of the fusion cycle shall be part of the quality control records.

Electrofusion– HDPE Pipe:

Electrofusion may be used where the butt fusion method cannot be used. Electrofusion couplings and fittings shall be PE4710/3608 HDPE, Cell Classification of PE 345464C as determined by ASTM D3350-05. Electrofusion couplings or fittings shall have a manufacturing standard of ASTM F1055. Couplings and fittings shall have the same pressure rating as the pipe unless otherwise specified on the plans.

Pipe Inspection:

Inspect the pipe for defects before installation and fusion. Defective, damaged or unsound pipe will be rejected.

Protect plain ends of the pipe while inserting through sleeves. It is important that there are no scratches on the plain ends.

Record Butt Fusion-HDPE

All main line pipe joints are to be butt fused using McElroy fusion equipment. Each McElroy butt fusion unit shall be equipped with a McElroy DataLogger. The contractor shall label each butt fused joint so as it will be recorded on the DataLogger. The DataLogger shall record temperature, fusion pressure, with a graphic representation of the fusion cycle and shall be part of the quality control records. The DataLogger information shall be downloaded weekly and given to the irrigation consultant or owners representative for quality control records.

Contractor Qualification- HDPE

The contractor shall have successfully installed high density polyethylene pipe in golf/turf irrigation projects. Three references will be required to be submitted. These reference(s) must provide a satisfactory response or the experience will not be accepted.

If a contractor has not previously successfully installed HDPE pipe for golf/turf irrigation projects within the past five years, he will be required to have a qualified fusion technician from the pipe supplier for a period of three days (at the expense of the contractor). The technician must have been trained and have fusion certification. The training must have been completed within the past twelve months. A designated person or persons will be trained by the technician. The training will include the following:

- butt fusion
- socket fusion
- electrofusion
- If electro fused or side wall fusion is required, this training must also be complete while the technician is on site.

If the contractor has experience, provide the certification certificate of the individual that will be on-site at all time of the fusing.

Contractor Equipment Qualification- HDPE:

If the contractor owns butt fusion equipment, the equipment must be serviced prior to use for this project. The machine must be environmental friendly and satisfactory working order. The hydraulic system must be leak free. The pressure gage must be checked for accuracy and the thermometer checked.

If a butt fusion machine is rented, it must be rented from company that has a fusion machine service center or centers certified by the butt fusion machine manufacturer. The machine must arrive with certification that the pressure gage and heater thermometer were accurate when shipped.

HDPE Warranty:

The HDPE pipe is to be 5 Year Limited Warranty for Turf Irrigation Applications.

Seller warrants that, for a period of five years from the date of final acceptance for turf application, it will replace any section of HDPE pipe product that is defective in materials or workmanship.

Contractor warrants that, for a period of five years from the date of final acceptance, it will re-fuse or repair a fusion connection that is defective in workmanship and promptly notifies Contractor of the defect and, allows the Contractor to inspect at the place of installation. If it is determined the fused connection to be defective, Contractor will re-fuse or repair the connection at the jobsite.

Specialized Pipe and Fittings:

All above grade pipe shall be copper pipe: Use Type "M/L/K" rigid conforming to ASTM Standard B88. Use wrought copper or cast bronze fitting, soldered or threaded per the installation details. Use 95% tin and 5% antimony solder.

Galvanized steel pipe: Use Schedule 40 conforming to ASTM Standard A120. Use galvanized, threaded, standard weight malleable iron fittings.

S-80 PVC fittings may be used and may be threaded or solvent weld. S-80 TOE nipples with S-80 couplings for plastic to metal connections. S-80 nipples cut in half will not be allowed.

Low-Density Polyethylene Hose: Use pipe specifically intended for use as a flexible swing joint, such as Funny Pipe or Swing Joint. Color: Black.

Use spiral barb fittings supplied by the same manufacturer as the hose.

Assemblies calling for threaded pipe connections shall use PVC Schedule 80 nipples and PVC Schedule 40 threaded fittings.

Use only Teflon-type tape on plastic threads.

Irrigation Controller

Controller 1 – Hunter ACC2 Decoder Controller 2wire

Hunter ACC2 Decoder series controller with Stainless Steel wall mount.

All wiring to be run in electrical conduit to and from controller.

Controller is to be installed and grounded per manufacturer recommendations. Minimum grounding is detailed.

Power to the controllers will be provided by MEP. The contractor will be responsible for making the connection from the power drop to the controller. Provide and install a Paige Electric 250090LED lightning surge arrestor on the power to the controller.

Product manufacturer and local distributor are to provide base training for the operation of the controllers at no cost to the Village. The distributor and contractor shall have complete knowledge of the operation and programming background of the Hunter ACC2 controller.

Use ICD-100 single station decoders. Use ICD-Sen with all sensors as needed.

Provide a Hunter ROAM XL kit to the owner and verify that it works.

Controller shall be a Stainless-Steel wall mount. Mount on the RPZ enclosure.

Controller 2 – Hunter ACC2 24v controller

Hunter ACC2 series controller with Stainless Steel wall mount.

All wiring to be run in electrical conduit to and from controller.

Controller is to be installed and grounded per manufacturer recommendations. Minimum grounding is detailed.

Power to the controllers will be provided by MEP. The contractor will be responsible for making the connection from the power drop to the controller. Provide and install a Paige Electric 250090LED lightning surge arrestor on the power to the controller.

Product manufacturer and local distributor are to provide base training for the operation of the controllers at no cost to the Village. The distributor and contractor shall have complete knowledge of the operation and programming background of the Hunter ACC2 controller.

Provide a Roam XL receiver and verify that it works.

Controller E – Existing Hunter Dual Controller

This controller is existing and is located on the RPZ enclosure. Use the 2-wire side of the controller for this system.

Use Dual-1 decoders and Surge Arrestors for grounding. See Hunter grounding detail for tying in the 2wire to the ground.

The controller is to have conduit with pull wires from the controller to the drop points for the 2 wire runs by others.

The contractor under this phase is to run the 2 wire in the conduit and make all connections.

Decoder Cable Fuse Device

Provide and install 2-wire Decoder Cable Switch Device on the 2-wire path. See plans for locations of devices. Switches to be located in valve boxes, Use only 3MDBY-R wire connectors. Switches are to be by Paige DCSD2 way or approved.

Grounding

The contractor will be responsible to provide earth grounding of 2 –wire ohm reading of not more than 10 ohms. This is at the controller and at various points on the 2wire run.

The contractor is to provide the Paige Electric equipment part # 182201IC for the grounding plate assemble 4" x 36" plate with #10 gauge wire lead, part # 182000IC6 for the a pre-welded wire to rod 5/8" x 8' with #6 wire and part # 1820001C10 for the PowerSet earth contact material, #50lb on top of the plate and #50lbs below.

This equipment shall be installed by the contractor per the Paige Electric instructions. The irrigation distributor supplying the controller to check all ohm readings with a megger and provide a document signed by the distributor that all readings are under 10ohms. Contractor is responsible for making adjustments to achieve this reading.

See Hunter grounding detail for tying the 2wire into the ground.

Electric Control Valves -Bubbler

All valves shall be of globe or globe/angle configuration with a female pipe thread inlet and outlet connections. Diaphragm assembly shall be sonically welded to form a solid-piece component. The diaphragm shall be of rubber construction to retain flexibility and provide maximum sealing throughout its area.

Electric valves shall be 1" Hunter PGV 101G and 1.5" PGV Globe electric valve series 24v latching solenoids.. The valve shall have a manual flow control with a hand-operated, rising-type flow control stem with control wheel/handle and an internal manual bleed assembly. Size per plan.

All parts shall be serviceable without removing valve from line. Valve may be installed at any angle without affecting valve operation. The standard solenoid shall be equipped with a 24v latching solenoid for use with 120v controllers. The solenoid shall be an encapsulated, one-piece unit with captive plunger. It shall be equipped with manual internal bleed capability to release the upper chamber water to the downstream piping, allowing the valve to open.

22" solenoid lead wires shall be attached to a 24v solenoid with waterproof molded coil capable of being removed by turning coil. Valve shall be held normally closed by internal water pressure with manual bleed screw.

The legend and flow arrow shall be applied at all valve locations. Valve numbering shall be located so as to be conspicuous and legible. The controller and valve numbering can be engraved in black on a yellow plastic tag. The tag size shall be standard size of 2.25" x 2.66".

Bubblers in Tree Pits

The spray head sprinklers shall be a Hunter PROS-PRS30 shrub adapter series. Sprinkler shall be mounted just above the final finish grade.

The bubbler is to attached to a 6" plastic stake or longer with zip ties for stability. nozzles shall be Hunter MSBN-10F 1 gpm full circle bubbler.

Sprinkler heads and bubblers shall be mounted on funny/flex pipe flexible connection. Maximum funny pipe length to be 18". S-80 insert tees are to be used on all lateral fittings connecting the head to the pipe. Saddles will not be allowed.

Sprinkler Bubbler Heads in planter

The spray head sprinklers shall be a 6" Hunter PROS-PRS30-CV series, 6" riser spray head. Sprinkler shall be mounted flush with final finish grade.

Retraction shall be achieved by a heavy-duty stainless steel retraction spring. Sprinkler shall have a riser seal and a wiper. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The sprinkler shall have a built-in pressure regulation device to regulate nozzle pressure regardless of the inlet pressure. The sprinkler shall have a drain check valve for up to 14 feet of elevation change.

Type and location of nozzles shall be Hunter MSBN-10F 1 gpm full circle bubbler.

Isolation Valves -HDPE Main Lines:

Isolation valves 2" shall be constructed of 304 stainless steel. Valve cross handle shall be constructed of 304 stainless steel. Valve mechanism and hardware shall be made of 100% 304-series stainless steel. The valve stem shall be fine threaded stainless steel, O-ring sealed for ease of operation. Valve outlet shall be FIPT. All valves shall have a S-80 union on both ends of the valve. Valve shall be made by LEEMCO.

Drip Irrigation Components

Drip Zones – Slotted Sleeving Pipe:

The external pipe sleeve shall be 3" ADS 3000 triple wall with 1/8" wide x 1½" long slits cut every 2" on center as available from Titan Industries at www.titanpipe.com. The ends shall use a 3" long sweep 90 with a minimum of 13" radius. Parallel row spacing shall be approximately 36" on center. Minor adjustments will be needed to avoid structures or to enter and exist tree pit areas. PVC short radius sweeps will not be allowed.

You will experience that the slotted pipe will bend and most likely make the curve, but if the curve is too tight, use the long sweep ell indicated above.

Drip Zones – Pipe Sleeve Fabric:

The pipe is to be in a 3" pipe sleeve by Drain EEZ sleeve by TJ Christy's. The sock shall be a non-woven geotextile produced by needle punching together 100% polypropylene staple fibers in a random network to form a stable fabric. The fibers are to be resistant to UV light deterioration and are to be inert to soil chemicals. The fabric shall not be biodegradable.

Drip Zone Drip line-

All drip line shall be pressure compensating drip line. The emitter shall be welded to the inside of the piping and have checks.

The drip line shall have factory installed inline emitters spaced every 12".

The flow rate from the emitter shall be .60 gallons per hour. The drip line shall be Hunter PLD-06-12 tubing.

Drip line shall be used in the general engineered soils in slotted pipe areas and 1" HDPE lateral pipe shall be used in the sleeves from one valve box manifold to the other.

Drip line Fittings-

Fittings used for the drip line shall be consistent with the pipe diameter and follow manufactures recommendations. Use Hunter PLD-AVR air relief/vacuum valve at the highest tree pit opening. Use Hunter PLD-BV fitting for manual flush valves, locate in tree pit opening at end of runs.

Drip Zone Electric Valve Assembly-

Soils drip zones shall all use a 1" zone kit.

All valves shall be of globe configuration with a female pipe thread inlet and outlet connections. Diaphragm assembly shall be sonically welded to form a solid-piece component. The diaphragm shall be of rubber construction to retain flexibility and provide maximum sealing throughout its area.

Electric valves shall be 1" and HUNTER ICZ-101-40 electric valve assembly series. The valve shall have a manual flow control with a hand-operated, rising-type flow control stem with control wheel/handle and an internal manual bleed assembly. Size per plan.

All parts shall be serviceable without removing valve from line. Valve may be installed at any angle without affecting valve operation.

22" solenoid lead wires shall be attached to a 24 VAC solenoid with waterproof molded coil capable of being removed by turning coil. Valve shall be held normally closed by internal water pressure with manual bleed screw.

The assembly shall have a wye strainer with a 150 mesh screen. The assembly shall also have a pressure regulator device to regulate the pressure at 40psi

The legend and flow arrow shall be applied at all valve locations. Valve numbering shall be located so as to be conspicuous and legible. The controller and valve numbering can be engraved in black on a yellow plastic tag. The tag size shall be standard size of 2.25" x 2.66".

Solvent Weld Fittings.

Solvent weld PVC fittings shall be Schedule 40, ASTM D-2466 and ASTM D-1784. PVC Schedule-40 fittings shall be produced from PVC Type 1, Cell Classification 1245B. All solvents and cements shall be that recommended by the fittings manufacturer.

S-80 PVC fittings may be used and may be threaded or solvent weld. S-80 TOE Nipples with S-80 couplings for plastic to metal connections. (S-80 nipples cut in half will not be allowed)

24 v Control Wiring.

Use American Wire Gage #14 AWG standard direct burial wire. All signal wire shall include a solid copper conductor and polyethylene (PE) or PVC insulation. It shall be rated for 600 volts. All common wires shall be #14 AWG direct bury.

Color, Wire color shall be continuous over its entire length. See drawing for color coding of control wire.

24v Splices

Use 3M DBY, 3M DBR connectors with waterproof sealant. Wire connector to be of plastic construction.

Wire markers

Pre-numbered or labeled with indelible non-fading ink, made of permanent, non-fading material.

All wiring to be installed following existing local and state codes.

Two Wire Control path

The 2wire decoder wire shall be Hunter twisted pair ID1YLW #14ga yellow jacketed wire bundle

Color: Wire color shall be continuous over its entire length. See drawing for color coding of control wire.

Splices: Use 3M DBR/Y-6 wire connector with waterproof sealant. Wire connector to be of plastic construction.

Wire markers: pre-numbered or labeled with indelible non-fading ink, made of permanent, non-fading material.

All wiring to be installed following existing local and state codes.

Tracer Wire

Use American Wire Gage #14 standard direct burial wire. All signal wire shall include a solid copper conductor and polyethylene (PE) or PVC insulation. It shall be rated for 600 volts.

A #14 tracer wire shall be installed on all mainline and lateral line runs beginning at the electric valve through the main and dripline in slotted pipe. Label all ends.

The inline drip shall have a tracer wire run from the tree pit through the sleeves and brought back to the tree pit. Tie into the tracer from the electric valve.

Tracer wire jacket to be purple in color for mainlines and red for lateral runs. Label all ends. Wire label markers: pre-numbered or labeled with indelible non-fading ink with a TAG pen by Paige, made of permanent, non-fading material.

Power Wire

Electric wire from the power source to control unit shall be solid or stranded copper. Type UF single-conductor cable, UL approved for direct underground burial. Power wires shall be black, white and green in color.

Splices: Use approved connectors. Conduit: PVC Schedule 40. Follow all local and state codes.

Instrumentation

Hunter Wireless Rain Click system. One per controller. Wire directly to the controller. The sensor shall be mounted on the Controller enclosure in a location that will be vandal resistant and is able to gather all of the necessary data without interference. Coordinate with Owner for proposed mounting location. The sensor shall be mounted in a stainless-steel sensor cover by Strong Box # SRSE.

The rain sensor shall be mounted in a location that will be vandal resistant and is able to gather all of the necessary data without interference.

Install a Hunter FCTX00 with s-80 tee and program all zones. Tap 1 is a 2" and tap 2 is a 1". Tie into controller via direct wire or through the 2-wire route.

Valve Boxes

Valve boxes shall be manufactured by Rain Bird VB series and shall be rectangular, 12" /w 6" extension or 6" and 10" round and have "T" lid tops.

Valve box shall be of a size that provides adequate space for valve repairs. For decoder systems, two valve per 12" rectangular box, for 24v systems, a maximum of 2 electric valves per 12" rectangular valve box. A 10" round valve box may be used for isolation valves, one electric valve, quick couplers and wire drops only.

The valve box cover shall have the component markings heat stamped into the cover with a 2" letter or number. Use the following symbols for corresponding components in the valve box.

EV – for Electric Valves
QC- Quick Couplers
XX – final zone number
GV – Gate valve
GR - Grounding

The final valve numbering shall also be branded into the tops with electric valves. Contractor may find an example of the branding tool at Brand New Industries Inc., Product # VB2x3.

If additional labels are needed add them and note it on the final as-built. All valve boxes are to have a label description on the top.

Contractor to coordinate location of valve boxes that are ganged together in clusters of three or more in planting beds with the Landscape Architect. Receive his approval of locations prior to installation.

The lids will be green when located in turf and black or brown when located in planting beds.

Irrigation Vault

The irrigation vaults located in the Bluestone paving are to be 30"x48"x24" deep in size. They are to be PD style Quazite, a fiberglass reinforced polymer. The cover and vault are to be gasketed. The vault is to be an open bottom vault. The vaults are to be tier 15.

Align the vault edge with a paver line. The vault is to be set flush to the surrounding bluestone pavers.

Quick Coupler Valves

Valves shall be 1" valves. The quick coupling shall have a yellow TuffTop cover. The matching Key and Hose Swivel shall be provided for both ¾" and 1" hoses (1 set). The quick coupler is to have stabilizer wings. If the valve does not have stabilizers originally installed, use attachable horizontal stabilizers bolted to the quick coupler.

Quick coupler valves are to be mounted on a S-80 swing joint with brass male (MIPT) threads entering the quick coupler. Place quick coupler in a 10" round valve box. The valve box is to be filled with 3/8" clear chip gravel as detailed. Ensure proper height when backfilling.

Swing Joints

The 1" swing joint assemblies shall have a working pressure rating of 315 psi @73F when tested in accordance with ASTM D3139, including internal hydrostatic pressure @ 787 psi. for 60 minutes and short-term pressure of 1008 psi without leakage or failure. Their performance shall be warranted for five years to installers and owners of irrigation systems. The swing joint shall have one O-rings at each swivel joint. The inlet and outlet sockets and threads conforming to ASTM standards D 2467 and D 2464, respectively. The body wall thickness of all components conforming to ASTM D 2464.

The swing joint riser assemblies will be molded of Rigid Poly (vinyl) Chloride (PVC) Type 1, Cell Classification 12454-B per ASTM Standard D 1784. It shall be manufactured in such a way, that both the male and female O-ring sealing areas be free from mold parting lines.

The swing joint shall have a five year warranty. The quick coupler shall have a minimum length 12" riser for quick couplers. The threads shall correlate to sprinklers, quick couplers and related components. Quick Coupler Swing Joints are to have a brass MIPT 90 Ell outlet to enter the bottom of the quick coupler. The contractor will be responsible for the correct lay length of the swing joint to provide the 45 degree positive drainage. Swing Joints are to be by Lasco.

Back Flow / Meter Enclosures

The RPZ and meter shall be in an aluminum enclosure. The enclosure shall have .05" Mill Finish H32 Aluminum. A stainless steel hinged drain. 304stainless steel rivets and pins. Mounting supports shall be 1/8" Mill finish 5052 H32 Aluminum. Concrete fasteners shall be AISI 304 Stainless Steel Wedge Anchor conforming to ASTM A276.

Enclosure at point of connection 1 shall be a minimum of 30" wide, 48" long and 40" high. The enclosure shall be 200D-AL enclosure by Safe t Cover. Contractor to verify that the 2" RPZ with Union and the 2" T-10meter by Neptune with flanges and 1hp booster pump with gauges and union will fit in the enclosure per code.

Enclosure at point of connection 2 shall be a minimum of 14" wide, 40" long and 30" high. The enclosure shall be 100SN-AL enclosure by Safe t Cover. Contractor to verify that the 2" RPZ with Union and the 2" T-10meter by Neptune with flanges and 1hp booster pump with gauges and union will fit in the enclosure per code.

Contractor is responsible to submit shop drawings of the enclosure with components shown inside drawn to scale.

If a larger enclosure is required, contractor is responsible for the larger enclosure size.

Enclosure to be mounted on a 6" concrete pad. See manufactures recommendations for mounting and concrete specifications.

The enclosure shall be powder coated black in color.

Back Flow Unit

Install backflow unit per state and local codes. See plans for tap size. Controller 1 has a 2" tap, controller 2 has a 1" tap and the existing controller has a 2" tap source. Contractor to coordinate with local authorities for approved back flow unit. Maximum pressure loss allowed through RPZ is 12psi. The RPZ is to have shut offs on the inlet and outlet. Use a 1 inch brass wye strainer on the inlet to the RPZ.

The RPZ is to have unions or flanges for removal.

Meter Unit

Contractor to acquire and install a 2" meter at controller 1 and a 1" meter at controller 2. Per the owner, the meter is to be a T-10 by Neptune with flanges. Coordinate with water department for any special requirements and to verify that this meter is correct. The meter is to have flanges on both ends for winter removal.

Install in the Aluminum RPZ enclosure.

All components are to be capable of removal for seasonal operation. All piping is to be capable of winterization and draining.

Booster pump at Tap E (existing)

The booster pump shall have unions on both ends and liquid filled pressure gauges on the inlet and discharge of the pump.

The pump shall have the following, operate with 115v power provided by others, the pump will be located in the RPZ enclosure.

The pump shall be a Pentair J/JB series 1hp booster pump and have a pump start relay.

The pump is to be capable of providing 50 gpm at a 22 psi boost from the static PSI of 47 PSI.

Booster pump at Tap 1

The booster pump shall have unions on both ends and liquid filled pressure gauges on the inlet and discharge of the pump.

The pump shall have the following, operate with 115v power provided by others, the pump will be located in the RPZ enclosure.

The pump shall be a Pentair J/JB- JME series 1hp booster pump and have a pump start relay.

The pump is to be capable of providing 50 gpm at a 22 psi boost from the static PSI of 47 PSI.

Other Components.

Tools and Extra Equipment: The Contractor is to provide to the Owner, two (2) sets of tools to repair and work on all equipment specified in this irrigation section.

The Contractor is to provide the Owner with two (2) sprinkler heads of each type specified, (1) electric valve of each size used.

The contractor shall provide to the Owner, one (1) keys and one (1) hose swivel matching the quick coupling valve installed.

One (1) 5' valve wrenches for gate valves are to be provided.

Other Materials: Provide imported fill material as required to complete this work at the Contractor's cost. Provide other materials or equipment shown on the drawings or installation details, which are part of the irrigation system, although such items may not have been referenced in these specifications.

Construction.

Inspection and Reviews.

Site Inspections: The bidder acknowledges that he/she has examined the site, plans and specifications, and the submission of a proposal shall be considered evidence that examination has been made.

Verify construction site conditions and note irregularities affecting work of this section. It shall be the contracting installer's responsibility to report to the Engineer any deviations between drawings, specifications and the site. Failure to do so before the installing of equipment and resulting in replacing and/or relocation of equipment shall be done at the Contractor's expense.

Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.

Beginning work of this section implies acceptance of existing conditions.

Utility Locations: The exact location of all existing utilities and structures and underground utilities are not indicated on the drawings; their locations shall be determined by the Contractor, and he/she shall conduct his/her work so as to prevent interruption of service or damage to them.

Arrange for and coordinate with local authorities the location of all underground utilities. Repair any underground utilities damaged during construction. Make repairs at no additional cost above the contract price.

The Contractor shall protect existing structures and utility services and be responsible for their replacement if damaged by him/her.

Excavation, Trenching and Backfilling.

Excavating shall be considered unclassified and shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.

Excavate to permit the pipes to be laid at the intended elevations and to permit work space for installing connections and fittings.

Coverage of pipe and wire (distance from top of pipe or control wire to finish grade):

12-inch over mainline pipe.

8-inch over control wire, follow local and state requirements if they dictate a deeper bury depth.

12-inch over lateral pipe to sprinklers with PE piping.

Dripline in slotted pipe is to be laid on top of engineered soils

Mainlines, PE lateral pipes 2 1/2" and smaller may be pulled into the soil using a vibratory plow device specifically manufactured for pipe pulling, if in the opinion of the Engineer that conditions are suitable. Minimum burial depths equals minimum cover listed above provided soil moisture content and other conditions are suitable to allow for full depth of the right to determine suitability or conditions.

Backfill only after lines have been reviewed and tested.

Excavated material is generally satisfactory for backfill. Backfill shall be free from rubbish, vegetable matter, and stones larger than 2 inches in maximum dimension. Remove material not suitable for backfill. Backfill placed next to pipe shall be free of sharp objects, which may damage the pipe.

Backfill unsleeved pipe by depositing the backfill material equally on both sides of the pipe in 6-inch layers and compacting each layer to 95% Standard Proctor Density, ASTM D698-78. Use of water for compaction, "puddling," will not be permitted.

Enclose pipe and wiring beneath roadways, walks, curbs, etc., in sleeves. Minimum compaction of backfill for sleeves shall be 95% Standard Proctor Density. ASTM D698-78. Use of water for compaction around sleeve, "puddling," will not be permitted.

Dress backfilled areas to original grade. Incorporate excess backfill into existing site grades.

Where utilities conflict with irrigation trenching and pipe work, contact the Engineer for trench depth adjustments.

Provide approved fine grained earth fill or sand to point 4" above the top of pipe where soil conditions are rocky or otherwise objectionable.

Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially-filled trenches open overnight.

The Contractor will be responsible for all finish and fine grading of trenches, disturbed areas around sprinklers heads, electric valves and any other excavated or disturbed areas by the Contractor. Contractor will also be responsible for all trench settling throughout the project during the one-year warranty period. If settling occurs, the contractor will repair and bring back to originally set grade.

When additional backfill material is needed to replace the unsuitable materials, it will be the Contractor's responsibility and expense to supply such material. It will also be the Contractor's responsibility to dispose of the unsuitable material.

Assembling pipe and Fittings.

General: Keep pipe free from dirt and pipe scale. Cut pipe ends square and deburr. Clean pipe ends. Keep ends of assembled pipe capped. Removed caps only when necessary to continue assembly.

All mainline and continuously pressurized pipe is to be installed using open trenches. Lateral pipe may be installed by "Plowing" if soil conditions permit, and soils do not contain gravel, rock, construction debris, or other potential damaging material.

Trenches may be curved to change direction or avoid obstructions within the limits of the curvature of the pipe.

Mainline and Fittings: Use only strap-type friction wrenches for threaded plastic pipe.

PVC Solvent Weld Pipe: Use a primer and solvent cement. Join pipe in a manner recommended by the manufacturer and in accordance with accepted industry practices.

Cure for 30 minutes before handling and 24 hours before allowing water in pipe. Snake pipe from side to side within the trench.

Fittings: The uses of cross type fittings are not permitted.

Lateral Pipe and Fittings: Use only strap-type friction wrenches for threaded plastic pipe.

PVC Pipe: Join pipe in the manner recommended by manufacturer and in accordance with accepted industry practice. Snake pipe from side to side within the trench.

Installation of Sprinkler and Irrigation Components.

Remote Control Valve (RCV) Assembly: Flush mainline before installation of RCV assembly.

Install where indicated on the drawing. Wire connectors and waterproof sealant shall be used to connect control wires to remote control valve wire. Install connectors and sealant per the manufacturer's recommendations.

Install only one RCV to a valve box. Locate valve box at least 12 inches from and align with nearby walls and edges of paved areas. Group RCV assemblies together where practical. Arrange grouped valve boxes in rectangular patterns. Allow at least 12 inches between valve boxes.

Adjust RCV to regulate the downstream operating pressure. Attach ID tag with controller station number to control wiring.

Sprinkler Assembly: Flush lateral pipe before installing sprinkler assembly. Install per the installation details at locations shown on the drawings.

Locate rotor sprinklers 6 inches from adjacent walls, fences or edges of paved areas. Locate spray sprinklers 3 inches from adjacent walls, fences or edges of paved areas. Install sprinklers perpendicular to the finish grade.

Supply appropriate nozzle or adjust arc of coverage of each sprinkler for best performance. Adjust the radius of throw of each sprinkler for best performance.

Installation of Control System Components.

Irrigation Controller Unit: The location of the controller unit as depicted on the drawings is approximate. The Engineer will determine the exact site location during sprinkler layout review.

Attach wire markers to the ends of control wires inside the controller unit housing. Label wires with the identification numbers (see drawings) of the remote control valve to which the control wire is connected. Connect control wires to the corresponding controller terminal.

Control Wire: For 24 v systems, bundle control wires where two or more are in the same trench. Bundle with pipe wrapping tape at 15-foot intervals.

Control wiring may be chiseled into the soil using a vibratory plow device specifically manufactured for pipe pulling and wire installation. Appropriate chisel must be used so that wire is fed into a chute on the chisel, and wire is not subject to pulling tension. Minimum burial depth must equal minimum cover previously listed.

Provide a 24-inch excess length of wire in an 8-inch diameter loop at each 90-degree change of direction, at both ends of sleeves and at 100-foot intervals along continuous runs of wiring. Do not tie wiring loop.

Coil 24-inch length of wire within each remote control valve box for 24v and 5 feet in each box for 2 wire.

For 24 v systems, install common ground wire and one control wire for each remote control valve. Multiple valves on a single control wire are not permitted.

If a control wire must be spliced, make splice with wire connectors and waterproof sealant, installed per the manufacturer's instructions. Locate splice in a valve box that contains an irrigation valve assembly, or in a separate 10-inch round valve box.

Use same procedure for connection to valves as for in-line splices.

Protect wire not installed with mainline pipe with a continuous run of warning tape placed in the backfill six inches above the wiring.

Installation of Other Components.

Tools and Spare Parts: Prior to the review at completion of construction, supply to the owner operating keys, servicing tools, spare parts, test equipment and any other items indicated in general notes on the drawings.

Other Materials: Install other materials or equipment shown on the drawings or installation details which are part of the irrigation system, even though such items may not have been referenced in these specifications.

Balancing and Adjusting.

The Contractor will be responsible for the balancing and adjustments of the various components of the system so the overall operation of the system is the most efficient. Including, but not limited to, the synchronization of the controllers, valves and sprinkler adjustments. Coordinate controller setup with the Engineer.

Requirements for Substantial Completion.

Cleaning Equipment and Premises: Thoroughly clean all parts of the piping, valves and equipment. Remove all construction debris, excess materials and equipment.

Operating and Maintenance Manuals: Contractor shall furnish to Owner, two operating manuals for furnished equipment. Information sheets shall be bound in standard three-ring binders labeled to show Contractor's name, address, regular business phone number, emergency phone number and date. Operating manuals shall be submitted prior to completion of work to allow time for review. Manual shall contain following information:

List (keyed with identification numbers used) each item of equipment which requires service, giving the name of the item, model number, manufacturer's name and address, and providing the name, address and phone number of the nearest representative of authorized service organization.

Cut sheets to be included for the following, but not limited to: electric valves, isolation valves, swing joints, valve boxes, controllers and sprinkler heads.

A copy of the shop drawing if changes in the design are required.

A complete operating and maintenance manual, parts list, wiring diagrams, lubrication requirements, and service instructions for each major item.

Complete control diagrams with description of all operation sequences and control devices.

Properly executed registrations and registered manufacturer's warranties.

After completion of work and when Owner has had sufficient time to examine operating manuals and become somewhat familiar with operation of equipment, a meeting will be arranged by the Contractor with the Owner for purpose of instructing Owner in proper maintenance of system and to answer questions he/she may have regarding its operation. Prior to this meeting, contractor shall have programmed a base program for all stations and run times.

It will be the responsibility of the Irrigation Contractor to provide a reliable communication system (i.e.: Two way radios or remote radio control activation system) for Substantial Completion, final acceptance and all periodic site visits. Once the controllers are operational, the contractor will be required to have a tablet device on site to operate the system. This tablet is to be accessible to the designer for any walk throughs that are scheduled.

Acceptance

Instruct the Engineer and Owner's designated personnel in the operation of the system, including adjustment of sprinklers, controller(s), valves, pump controls and moisture sensing controls, etc.... Once contractor has trained the Engineer and Owner, the system is fully operational and has completed the punch list, the project will be accepted. A written acceptance and date will be provided.

Hydrostatic Testing.

Notify the Engineer three days in advance of testing.

Pipelines jointed with rubber gaskets or threaded connections may be subjected to a pressure test at any time after partial completion of backfill. Pipelines jointed with solvent-welded PVC joints shall be allowed to cure at least 24 hours before testing.

Subsections of mainline pipe may be tested independently, subject to the review of the Engineer.

Furnish clean, clear water, pumps, labor, fittings, and equipment necessary to conduct test or retests.

Cap riser of mainline components for volumetric pressure tests. Backfill to prevent pipe from moving under pressure. Expose coupling and fitting. Purge all air from the pipeline before test.

Subject mainline pipe to the anticipated operating pressure for two hours. Maintain constant pressure. Test complete system under full line pressure. Pressure must be maintained with less than 2lbs loss in the system for 4 hours. If the system does not hold pressure, repair leaks and retest system until the system maintains pressure.

All necessary testing equipment shall be furnished by the Contractor. Cement or caulking to seal leaks is prohibited.

Activate each remote control valve in sequence from controller. Replace defective remote control valve, solenoid, wiring, or appurtenance to correct operational deficiencies.

Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.

Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to the owner.

Guarantee / Warranty and Replacement.

It shall be the Contractor's responsibility to ensure and guarantee satisfactory operation of the entire system and restoration of the area. The entire system shall be guaranteed to be complete and perfect in every detail on the date it's accepted.

Minor maintenance and adjustment shall be by the Owner.

Make repairs within seven (7) days of notification from the Engineer.

Contract documents govern replacements identically as with new work. Make replacements at no additional cost to the contract price.

Manufacturer's guarantee/warranty applies to originally installed materials, equipment, and replacements made.

Demonstration, Winterization and Spring Start-up.

Coordinate the winterization and start-up with the Engineer and Owner's landscape maintenance personnel.

Contractor shall winterize the system the first year as part of this contract, and will provide written instructions to the Owner for future service and maintenance.

Return to the site within ten (10) days of spring start-up and demonstrate to the Owner the proper procedures for the system start-up, operation and proper maintenance. Repair any damage caused in improper winterization at no additional cost to the owner.

After completion, testing and acceptance of the system, the Contractor will instruct the Engineer and Owner's personnel in the operation and maintenance of the system.

Measurement. The contract unit price for irrigation system shall be measured per complete system installed and tested.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for IRRIGATION SYSTEM SPECIAL including all labor, material, equipment, and services necessary for providing the landscape irrigation systems in a serviceable, fully operational manner, including, but not limited to, excavation, backfilling, sprinkler heads, solenoid control valves, isolation valves, valve boxes, automatic controls, system testing, owner personnel training, piping, equipment identification, plumbing permits, inspection fees, valve tags, charts, supports, sleeves, fittings, valves, and accessories.

STRUCTURAL SOIL

Description. Work under this item shall be performed according to Section 211, Section 253 and Section 254 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

This work shall consist of the purchase, transportation, storage, delivery, preparation, and installation of CU Structural Soil. All labor, materials, tools, and equipment required to perform the work above is included in the unit cost. Excavation for STRUCTURAL SOIL shall be paid for separately and is not included as part of this pay item.

References.

- A. Section 211 of IDOT Standard Specifications for Road and Bridge Construction
- B. Section 253 of IDOT Standard Specifications for Road and Bridge Construction
- C. Section 254 of IDOT Standard Specifications for Road and Bridge Construction

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

Article/Section	
(a) Coarse Aggregate	1004.04
(b) Topsoil.....	1081.05(a)

General Requirements. CU-Structural Soil ® shall be produced in accordance with all applicable copyrights and shall be amended per soil lab results to provide adequate soil for the growth of trees. Each amendment in the amount required to produce an acceptable CU-Structural Soil, shall be prepared offsite at the suppliers facility creating a uniform mixture. The CU-Structural Soil shall be stored in stockpiles at the producer or supplier’s facility and be protected from erosion, absorption of excess water, noxious weeds, and contamination at all times.

Delivery to the job site shall only occur after the Engineer has reviewed and approved the testing results obtained by Quality Control (QC). Final approval of the CU-Structural Soil shall be based on testing performed by IDOT Quality Assurance (QA) on project site samples.

Submittals. Upon the completion of all mechanical and chemical analyses, a final report prepared by the certified testing laboratory (according to the Certifications paragraph within the QC/QA Requirements section) detailing these results shall be submitted to the Engineer for review by the Engineer. The final report shall include the project number, project name, source of material, quantity of material represented by the samples, and the recommendations for chemically enhancing the soil’s characteristics in order to meet the intent of the application.

Placement. Prior to placing the CU-Structural Soil, all final adjustments to any utility structures within the planters must be completed and accepted by the Engineer. Planters shall be free of all trash and debris before placement begins. If geotechnical fabrics and/or drainage layers have been specified, the condition of these items shall be intact and free of holes, tears, or defects that may inhibit their function. Any deficiencies found shall be repaired by the Contractor without any additional cost to the contract. Irrigation systems located within the planters shall not be placed until the planter soil mix is approved by the Engineer.

Place, spread, and rough grade the soil to depths specified on the plans. The CU-Structural Soil shall be placed in two lifts. The first lift shall be 2/3 of the planter soil depth. After placing each lift, moisten the surface at a rate sufficient to hydraulically settle the soil, or as determined by the Engineer. Allow the water to thoroughly percolate through the soil before placing the next lift. Soil placed and found to be unacceptable by the Engineer shall be removed and replaced at no cost with a soil mix in accordance with the specifications and as approved by the Engineer. The contractor shall be responsible for repairing any damage caused during the removal and replacement operation, which includes, but is not limited to, plant material, irrigation system(s), water proofing membrane, adjacent sidewalk, curb and gutter, pavements, planters, etc. Any additional traffic control required to remove and replace any soil mix found to be unacceptable by the Engineer and / or perform said repairs shall be at no cost to the contract.

Compact soil per contract documents. The removal of excess material or the addition of soil may be required prior to tree installation. This shall be considered incidental to the cost of CU-Structural Soil and will not be paid for separately. Any areas disturbed by irrigation installation shall be restored. The finished grade shall be within ± 0.10 feet of the design grade while allowing the necessary room for placement and mixing of organics as required by the Engineer.

All debris, litter, tire tracks, dirt, and unintended materials shall be removed, swept, or washed off of all landscape, hard median surfaces, and pavement on a daily basis.

QC/QA Requirements. Quality control testing is required by the producer or supplier to verify compliance with the specification prior to delivery. The pH and mechanical results must be within the tolerances specified prior to performing any Quality Assurance testing by the Engineer. Upon the completion of acceptable QC results for both mechanical and chemical properties, the Engineer will conduct job site Quality Assurance testing to verify the results obtained by QC and determine if the mechanical and chemical results are acceptable.

Testing. The mechanical testing and chemical analysis requirements listed above must be conducted by QC at the frequency listed below. Confirmation or QA testing conducted by IDOT QA under the direction of the Engineer will be a percentage of the total tests performed by QC as determined by the Engineer. Testing performed by IDOT QA will only be conducted once all of the soil mix has been delivered to the site and a final representative composite sample can be obtained.

<u>Soil Quantity (c.y.)</u>	<u>Number of Tests**</u>
< 200	1
200 – 1000	3
> 1000	$\left[\frac{(\text{Quantity} - 1000)}{50} \right] + 3^{***}$

** When more than one test is performed, the average of the test results will be used to determine acceptance.

*** The resulting value shall be rounded up to the nearest whole number.

Certifications. All testing shall be completed by laboratories approved to perform the testing detailed above. Mechanical testing and chemical testing may be completed by different laboratories as long as each laboratory is certified to perform the tests for which they have provided results. Agricultural laboratories conducting the testing must be an active member with the Illinois Soil Testing Association (ISTA) and currently certified under ISTA's Laboratory Proficiency Testing Program. Standard material testing laboratories may only perform the mechanical tests provided they are AASHTO accredited to conduct those testing procedures.

Acceptance. Due to shipping and sampling variances, an additional tolerance of ± 5% will be used to evaluate the acceptance of the planter soil mix based on IDOT QA test results as they relate to the sand, silt, and clay contents. Mechanical test results that are within these tolerances will be considered acceptable. Results from the remaining Mechanical and Chemical Analysis will be evaluated based on the applicable tolerances and the recommendations provided by the testing laboratories. Soil placement shall only occur after final review and approval by the Engineer.

Method of Measurement. This work will be measured for payment in cubic yards in place after all means of consolidation have been applied and deemed satisfactory by the Engineer. The volume of soil will be computed by the method of average end areas.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for STRUCTURAL SOIL which price shall include all testing, furnishing, stockpiling, transporting of materials, and all labor and equipment necessary to complete the work as specified.

PLANTING SOIL MIX FURNISH AND PLACE

Description. Work under this item shall be performed according to Section 211, Section 253 and Section 254 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

This work shall consist of the purchase, transportation, storage, delivery, preparation, and installation of Planter Soil Mix. All labor, materials, tools, and equipment required to perform the work above is included in the unit cost. This item shall also include all excavation and preparation of planting area prior to installing.

References.

- D. Section 211 of IDOT Standard Specifications for Road and Bridge Construction
- E. Section 253 of IDOT Standard Specifications for Road and Bridge Construction
- F. Section 254 of IDOT Standard Specifications for Road and Bridge Construction

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

Article/Section	
(c) Fine Aggregate (Note 1).....	1003.06
(d) Topsoil.....	1081.05(a)

Note 1. The fine aggregate shall consist of natural sand.

General Requirements. The planter soil mix shall be a loam soil consisting of 40-45% Sand, 7-20% Clay, and 35-40% Silt and must be 24 inches deep minimum per plans. Each amendment in the amount required to produce an acceptable planter mix, shall be added and mixed with pulverized topsoil and prepared offsite at the suppliers facility creating a uniform mixture. The planter soil mix shall be stored in stockpiles at the producer or supplier’s facility and be protected from erosion, absorption of excess water, noxious weeds, and contamination at all times.

Delivery to the job site shall only occur after the Engineer has reviewed and approved the testing results obtained by Quality Control (QC). Final approval of the soil mix shall be based on testing performed by a third party testing contractor on project site samples.

A mechanical and chemical analysis shall be performed on the soil mix sample and the results shall fall within the following limits. The mechanical analysis may be completed prior to performing the chemical analysis. If the results of the mechanical analysis are within the specified limits, then a chemical analysis shall be performed on the soil mix sample to determine if the results fall within the specified limits.

Mechanical Analysis

Component Ingredient Contents	<u>Minimum</u>	<u>Maximum</u>
Clay content	0%	28%
Silt content	45%	77%
Sand content	25%	33%
Organic content	5%	10%

Chemical Analysis

General Components	<u>Minimum</u>	<u>Maximum</u>
pH value		5.5 7.5
Cation Exchange Capacity		* *
Soluble salt content		* *
Miscellaneous Constituent Chemical Contents		
Phosphorous content	*	*
Potassium content		* *
Micro nutrient content	*	*
Residual agricultural chemical content		* *

* The content of these items do not have a minimum or maximum amount. The resulting content will be evaluated by the Engineer and if found to be reasonable by the Engineer the stockpile represented by the sample(s) will be deemed acceptable as it relates to these items only. The sample(s) must also meet the remaining mechanical and chemical requirements for final approval.

Submittals. Upon the completion of all mechanical and chemical analyses, a final report prepared by the certified testing laboratory (according to the Certifications paragraph within the QC/QA Requirements section) detailing these results shall be submitted to the Engineer for review by the Engineer. The final report shall include the project number, project name, source of material, quantity of material represented by the samples, and the recommendations for chemically enhancing the soil's characteristics in order to meet the intent of the application.

Placement. Prior to placing the planter soil mix, all final adjustments to any utility structures within the planters must be completed and accepted by the Engineer. Planters shall be free of all trash and debris before placement begins. If geotechnical fabrics and/or drainage layers have been specified, the condition of these items shall be intact and free of holes, tears, or defects that may inhibit their function. Any deficiencies found shall be repaired by the Contractor without any additional cost. Irrigation systems located within the planters shall not be placed until the planter soil mix is approved by the Engineer.

Place, spread, and rough grade the soil to depths specified on the plans. The soil mix shall be placed in two lifts. The first lift shall be 2/3 of the planter soil depth. After placing each lift, moisten the surface at a rate sufficient to hydraulically settle the soil, or as determined by the Engineer. Allow the water to thoroughly percolate through the soil before placing the next lift. Soil mix placed and found to be unacceptable by the Engineer shall be removed and replaced at no cost with a soil mix in accordance with the specifications and as approved by the Engineer. The contractor shall be responsible for repairing any damage caused during the removal and replacement operation, which includes, but is not limited to, plant material, irrigation system(s), water proofing membrane, adjacent sidewalk, curb and gutter, pavements, planters, etc. Any additional traffic control required to remove and replace any soil mix found to be unacceptable by the Engineer and / or perform said repairs shall be at no cost to the Village.

Rake smooth and finish grade all planted areas. The removal of excess material or the addition of planter soil mix may be required prior to landscaping. This shall be considered incidental to the cost of planter soil mix and will not be paid for separately. Any areas disturbed by irrigation installation shall be restored to finish grade and raked smooth. The finished grade shall be within ± 0.10 feet of the design grade while allowing the necessary room for placement and mixing of organics as required by the Engineer.

All debris, litter, tire tracks, dirt, and unintended materials shall be removed, swept, or washed off of all landscape, hard median surfaces, and pavement on a daily basis.

QC/QA Requirements. Quality control testing is required by the producer or supplier to verify compliance with the specification prior to delivery. The pH and mechanical results must be within the tolerances specified in this specification prior to performing any Quality Assurance testing by the Engineer. Upon the completion of acceptable QC results for both mechanical and chemical properties, the Engineer will conduct job site Quality Assurance testing to verify the results obtained by QC and determine if the mechanical and chemical results are acceptable.

Testing. The mechanical testing and chemical analysis requirements listed above must be conducted by QC at the frequency listed below. Confirmation or QA testing conducted by IDOT QA under the direction of the Engineer will be a percentage of the total tests performed by QC as determined by the Engineer. Testing performed by IDOT QA will only be conducted once all of the soil mix has been delivered to the site and a final representative composite sample can be obtained.

<u>Soil Quantity (c.y.)</u>	<u>Number of Tests**</u>
< 200	1
200 – 1000	3
> 1000	$\left[\frac{(\text{Quantity} - 1000)}{50} \right] + 3^{***}$

** When more than one test is performed, the average of the test results will be used to determine acceptance.

*** The resulting value shall be rounded up to the nearest whole number.

Certifications. All testing shall be completed by laboratories approved to perform the testing detailed above. Mechanical testing and chemical testing may be completed by different laboratories as long as each laboratory is certified to perform the tests for which they have provided results. Agricultural laboratories conducting the testing must be an active member with the Illinois Soil Testing Association (ISTA) and currently certified under ISTA's Laboratory Proficiency Testing Program. Standard material testing laboratories may only perform the mechanical tests provided they are AASHTO accredited to conduct those testing procedures.

Acceptance. Due to shipping and sampling variances, an additional tolerance of $\pm 5\%$ will be used to evaluate the acceptance of the planter soil mix based on IDOT QA test results as they relate to the sand, silt, and clay contents. Mechanical test results that are within these tolerances will be considered acceptable. Results from the remaining Mechanical and Chemical Analysis will be evaluated based on the applicable tolerances and the recommendations provided by the testing laboratories. Soil placement shall only occur after final review and approval by the Engineer.

Method of Measurement. This work will be measured for payment in cubic yards in place after all means of consolidation have been applied and deemed satisfactory by the Engineer. The volume of soil will be computed by the method of average end areas.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for PLANTING SOIL MIX FURNISH AND PLACE, which price shall include all testing, furnishing, stockpiling, transporting of materials, and all labor and equipment necessary to complete the work as specified.

PLANT INSTALLATION

Description. Work under this item shall be performed according to Section 253 and Section 254 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

This work shall consist of the purchase, transportation, storage, delivery, preparation, and installation of balled and burlapped trees, balled and burlapped shrubs, container shrubs, perennials, grasses, groundcovers, vines, and bulbs (plant material). All labor, materials, tools, and equipment required to perform the work above is included in the unit cost. This item shall also include all excavation and preparation of planting area prior to planting, pulverized topsoil, wrapping, mulching, watering, plant care, and period of plant establishment for all balled and burlapped shrubs, container shrubs, perennials, grasses, ground covers, vines, and bulbs.

References.

- G. ANSI Z60.1-2004 -- American Standard for Nursery Stock; 2004 (or latest edition)
- H. Section 253 of IDOT Standard Specifications for Road and Bridge Construction
- I. Section 254 of IDOT Standard Specifications for Road and Bridge Construction

Submittals.

- A. Soil Laboratory Test
- B. Soil sample - provide in 1 quart sealed plastic container.
- C. Shredded hardwood bark mulch sample - provide in 1 quart sealed plastic container.
- D. Request for inspection of Materials sheets (Soil, Mulch)
- D. Request for Inspection of Plant Material sheets
- E. Tree wrap – sample
- F. Permits - The Contractor is responsible for obtaining all necessary permits and licenses required by law and pay all fees associated therewith.

Permits apply to any arterial streets which require the opening of the parkway, traffic control and protection for any type of barricades or signs to be utilized for public notice for work under this contract must be obtained from the Village of Oak Park.

Permits for watering and sanitary work purposes must obtain Fire Hydrant Permit from the Public Works Department, Village of Oak Park.

- G. Photos – Digital before photos of each site will be required. All photos will be labeled with the associated address and submitted on a portable USB flash drive or web-sharing photo site. Photos must include a geographic reference point within the photo frame for verification and reference.

Samples and resources of all materials shall be submitted to the Engineer for approval.

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

Deciduous Shade Trees. Street tree plantings shall be free of branches equivalent to ½ of the tree height or so that the crown of tree is in proportion to trunk as the tree grows.

Trees with ascending branches may be branched 1 foot or more below a starting branch height at 6' minimum.

Provide trees of specimen quality in accordance with American Association of Nurseryman, Inc., (AAN) Code of Standards ANSI Z60.1.

Plant Material Inspections. Plant material shall comply with American Standard for Nursery Stock ANZI Z60.1- 2004 (or latest edition), which by reference is made part of these specifications.

All plant material requires inspection by a IDOT authorized representative. IDOT will inspect all plant material at state certified nurseries of harvest prior to the planting season and prior to being delivered to the jobsite or storage and staging yard. Balled and burlapped trees and shrubs will be inspected in ground at the nurseries. No trees shall be delivered without IDOT Seals. This will be done upon the submittal of "Request for Inspection of Plant Material" sheets. These sheets must be submitted to IDOT at least seven (7) weeks prior to the expected date of installation, unless otherwise directed by the Engineer. Plant material not installed within the scheduled planting season will require re-inspection the following planting season. The Engineer reserves the right to place identification seals on any or all plants selected. The Village also reserves the right to select and tag all plant material prior to acceptance by the Engineer. Approval of plant material on such examination shall not be construed as final acceptance of it.

An inspection at the job site will be made prior to installation of plant material. Any plant material not meeting specification must be moved off the site and replaced at no additional cost.

QA/QC Requirements. All plants shall be obtained from state certified nurseries, in hardiness zones of comparable local climatic range to the Village of Oak Park and approved by the Engineer or Authorized Representative. All trees shall be dug prior to leafing out (bud break) in the spring or when plants have gone dormant in the fall, except for the following species which are only to be dug prior to leafing out in the spring: (The Engineer reserves the right to expand this list upon submittal of the Planting Schedule.)

1. Quercus (Oak)
2. Prunus (Cherry)

Period of Plant Establishment. From the date of initial acceptance pursuant to final acceptance, the Contractor shall provide a period of establishment in accordance with Section 253 and 254 of the Standard Specifications for Road and Bridge Construction, EXCEPT THAT THE PERIOD OF ESTABLISHMENT MUST BE ONE COMPLETE GROWING SEASON FOR ALL PLANT MATERIAL. Growing Season is defined as such that any plant material installed in the spring planting season will be inspected for final acceptance at the end of the following year's spring planting season. Any plant material installed in the fall planting season will be inspected for final acceptance at the end of the following year's fall planting season. Final acceptance of all work will be made within thirty (30) days following the end of all planting seasons.

All plant material shall be in a healthy and thriving condition representative of its species, as determined by the Engineer, for the duration of the period of establishment. Plant material found not to be healthy as stated above due to, but not limited to: improper handling or planting; improper after care including trimming, watering, weeding, cultivating, insect infestations, or from shock of transplanting shall be removed by the contractor and replaced at no cost.

The Contractor shall replace said plant material at no cost within the time allotted by the Engineer. The replacement plant material shall be inspected by a IDOT authorized representative following the same process as in the 'Plant Material Inspection' section above.

Failure to replace plant material within the time allowed will result in liquidated damages being applied in the amount of \$250 per calendar day. The Engineer reserves the right to make arrangements as it deems necessary to have unacceptable plant material removed if the Contractor fails to replace the plant material within the allotted time. The costs resulting from such actions by the Village will be at the cost of the Contractor.

Guarantee: Contractor shall guarantee for period of one year from the date of Preliminary Acceptance / Substantial Completion, replacement of plants which have died, or are in distressed/dying condition, or which have failed to flourish in such manner that their usefulness or appearance has been impaired. Replace any tree with dead main leader or crown that is 25% or more dead.

Exclusions: Contractor shall not be liable for replacement cost of plants damaged by deicing compounds, fertilizers, pesticides or other materials not specified in Contract Documents or not applied by the landscaper, by relocating or removal by others, by acts of God, or by vandalism, and losses due to curtailment of water by local authorities.

Inspection of Maintenance: During guarantee period, Contractor shall, from time to time, inspect watering, cultivation, and other maintenance operations carried on by Owner with respect to such work, and promptly report to Owner any methods, practices or operations considered unsatisfactory and not in accord with interests or good horticultural practices.

Failure of Contractor to so inspect or report shall be construed as an acceptance of Owner's maintenance operations, and Contractor shall not thereafter claim or assert that any defects which may later develop are result of such methods or practices or operations.

Replacements: Plants which die or require replacement for other reasons during one-year guarantee period shall be replaced as soon as possible during following acceptable planting seasons:

1. Spring Replacement Season: All plants - when ground becomes workable to June 15.
2. Fall Replacement Season:
 - a) Deciduous plants - September 1 to November 15.
 - b) Evergreen plants - September 1 to November 1.

Procedure: Dispose of plants off-site in legal manner. Replacements shall be of same size and species as original plant unless otherwise approved by Engineer. Replacements shall be supplied and installed in accordance with specifications.

Additional one-year guarantee for replacement plants shall begin on date of final acceptance of plant material by Engineer as documented in field report.

Replacement and Damages: Decisions of Engineer for required replacements shall be conclusive and binding upon Contractor. Contractor shall be responsible for repairing damage to property also caused by defective workmanship and materials

Method of Measurement. Plant installation will be measured for payment in place per each or unit. Only acceptable plants will be measured for payment. All materials required to provide and establish healthy, thriving plant material shall be considered included in the cost to this line item.

Basis of Payment. This work will be paid for at the contract unit price per EACH for TREE, ACER MIYABEI MORTON (STATE STREET MIYABE MAPLE), 3" CALIPER, BALLED AND BURLAPPED, TREE, CARPINUS BETULUS FASTIGIATA (COLUMNAR EUROPEAN HORNBEAM), 3" CALIPER, BALLED AND BURLAPPED, TREE, GINKGO BILOBA (GINKGO), 3" CALIPER, BALLED AND BURLAPPED", TREE, GLEDITSIA TRIACANTHOS INERMIS SKYLINE (SKYLINE THORNLESS COMMON HONEYLOCUST), 3"" CALIPER, BALLED AND BURLAPPED", TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 3" CALIPER, BALLED AND BURLAPPED, TREE, PLATANUS X ACERIFOLIA MORTON CIRCLE (EXCLAMATION! LONDON PLANETREE), 2-1/2" CALIPER, BALLED AND BURLAPPED, TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 3" CALIPER, BALLED AND BURLAPPED, TREE, ULMUS ACCOLADE (HYBRID ELM), 3" CALIPER, BALLED AND BURLAPPED, SHRUB, HYDRANGEA QUERCIFOLIA (OAKLEAF HYDRANGEA), 2' HEIGHT, CONTAINER, SHRUB, BUXUS MICROPHYLLA WINTERGREEN (WINTERGREEN LITTLELEAF BOXWOOD), 2' HEIGHT, CONTAINER.

This work shall be paid for at the contract unit price per UNIT for PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (ALLIUM 'SUMMER BEAUTY', SUMMER BEAUTY ALLIUM, 1 GAL./CG)PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (ASTILBE CHINENSIS VAR. PUMILA, PUMILA CHINESE ASTILBE, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, 3-GALLON POT (CALAMAGROSTIS x ACUTIFLORA 'KARL FOERSTER', KARL FOERSTER FEATHER REED GRASS, 3 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (HEUCHERA 'CITRONELLA', CITRONELLA CORAL BELLS, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (HOSTA 'HALCYON', HALCYON HOSTA, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (SALVIA NEMOROSA 'ROSENWEIN', ROSE WINE SALVIA, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (SESLERIA AUTUMNALIS, AUTUMN MOOR GRASS, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, GALLON POT (STACHYS OFFICINALIS 'HUMMELO', ALPINE BETONY, 1 GAL./CG), PERENNIAL PLANTS, ORNAMENTAL TYPE, QUART POT (LIRIOPE SPICATA, LILYTURF, QUART/CG), PERENNIAL PLANTS, BULB TYPE (ALLIUM SPHAEROCEPHALON, ALLIUM DRUMSTICK, BULB), PERENNIAL PLANTS, BULB TYPE (ALLIUM NIGRUM, ORNAMENTAL ONION, BULB), PERENNIAL PLANTS, BULB TYPE (ALLIUM HOLLANDICUM, ALLIUM PURPLE SENSATION, BULB), PERENNIAL PLANTS, BULB TYPE (NARCISSUS MIX, DAFFODIL SPRING MIX, BULB)

The cost of these items shall include the purchase, transportation, storage, delivery, preparation, and installation of the plant material of the type and size specified, and labor, materials, tools, and equipment necessary to complete the work. Also included in these line items is initial plant care and the period of plant establishment as described with in.

TREE GRATE ASSEMBLY, COMPLETE

Description. This item consists of furnishing all labor, materials and equipment for installing frames and grates at the locations shown on the plans. This work includes furnishing and installing the cast iron tree grates, grate frame, volcanic rock mulch, concrete, reinforcement, formwork structure excavation, protection of all existing utilities encountered, and clean up and restoration of any disturbed areas to the condition prior to the contractor's operation. The contractor shall be liable for any damages to property caused by his operations and in the event of damages; he shall at his own expense restore all disturbed or damaged areas to their original condition.

Submittals. Submit shop drawings showing dimensions and location of concrete structures and placement, size and length of reinforcement bars. Shop drawings must include provisions and details for the formwork required for casting of the concrete and the method of construction. Shop drawings of all items related to the manufacture and installation of the tree grate and frame must be submitted and approved by the Engineer before fabrication. The contractor shall arrange to confine his/her operations to normal working hours for the industry and no work will be permitted on Sundays and holidays without written authorization from the Engineer.

Cast Iron Tree Frame and Grate

Material. The material must be gray iron castings conforming to A.S.T.M. A48 or A-48-75, class 35 or 35B, and Article 1006.14 of the Standard Specifications.

Design. Grate pattern must comply with ADA Guidelines for equal access. Tree grates will be 1.5" thick with accompanying frame. Grate will consist of two halves with 16" minimum diameter opening for trees. Retrofit grates will be 1.5" thick with a ¾" thick lip extending 2" beyond the edge of the tree pit opening. Grate openings must meet or exceed ADA Standard. Grate dimensions will be specified in plans or by the Engineer. Grate halves must be able to be bolted together with tamperproof bolts, and the grate must also be bolted to the frame with tamperproof bolts.

Product. 4' x 8' Tree grate as manufactured by East Jordan.

- a) Type: 8954-4 Plaza Assembly
- b) Size: 4' x 8'
- c) Finish: Gray Iron
- d) Options: 24" opening with removable center

Fasteners

Tree grate halves must be joined together with tamper resistant bolts and fastened to grate frame with tamper resistant bolt assembly packages as provided by the manufacturer.

Inspection

Installation assumes responsibility for performance. Surface conditions

Examine frame, concrete ledge, or ground surface to receive grate. The seat for the grates must be cleaned prior to setting the grates. Correct conditions to comply with manufacturer's recommended installation procedures.

Join Grate Halves

Bring tree grate halves together around tree at a level to allow easy access to underside. Join sections at preformed holes using temper-resistant bolt packages provided by manufacturer as suggested. Lower grate into place and bolt to frame with tamper-proof resistant bolts. If grate manufacturer cannot accomplish this, then the grates and frame must be tapped, field drilled, and bolted on site. The cost for this work and equipment will be incidental to these items.

Warranty

Manufacturer's written warranty for the tree frame and grate must be handed over to the Engineer prior to installation of grates.

Material under Grate

Mulch must be black and large volcanic rock, 2" in depth, free of foreign materials and approved by the Engineer. The cost of furnishing and installing mulch will be incidental to these items.

The Contractor must remove all litter and plant debris before mulching. The Contractor must repair grade by raking and adding Planter Soil Mix as needed, before mulching. Care must be taken not to bury leaves, stems, or vines under mulch material.

All finished mulch areas must be left smooth and level to maintain a uniform surface and appearance. All tree grate areas or work areas must be clean of debris and mulch, prior to leaving the site.

Method of Measurement: This work will be measured for payment per each, complete in place.

Basis of Payment. This work will be paid for at the contract unit price per each for TREE GRATE ASSEMBLY, COMPLETE, which price will be payment in full for performing the work described herein including the cast iron tree frame and grate, concrete structures, reinforcement bars and required structure excavation.

PLANTER CURB

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing mortared Granite Planter Curb as defined by the limits indicated in the plans and provided details.

Materials.

1. **Granite Planter Curb:** Granite Planter Curb must be natural Granite per the specifications shown below. See plans for locations.
 - a. **Type:** Mesabi Black as manufactured by Coldspring Granite USA, Contact: Karen Olah, kmolah@coldspringusa.com, 800.551.7502
 - i. **Size:** Curb sections per plans
 - ii. **Finish:** Thermal finish top, split face front, saw cut all other ends, 3/4" bevel top edges as shown on plans
 - iii. **Color:** Mesabi Black

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

2. **Setting Bed Materials:**

- A. **Curb Joint Material:** Joint fill to be mortar per manufacturers recommendations. Color to match or complement granite color.
- B. **Bedding Course / Leveling Course:** Mortar setting bed per plans.
- C. **Base Course:** See plans for more information.

General Requirements.

1. Protect Granite Planter Curb and mortar materials during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace granite work damaged by frost or freezing.
3. Weather Limitations: Protect granite work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of granite work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures granite work being without damage or deterioration at time of Substantial Completion.

5. **Clean Up:** Sweep clean all paved areas of excess aggregate, mortar and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

1. **Product Data:** Provide product data and cut sheets for specified granite, setting bed, all applicable accessories, and manufacturer's standard installation details.
2. **Shop Drawings:** Provide shop drawings for all granite curbs in accordance with the typical planter plan shown in plans.
3. **Product Sample:** Provide (3) three material samples for each specified granite type showing full range of color variation
4. **Product Sample:** Provide (3) three (1) one lb samples of mortar fill material in standard color range to match paving

Construction Requirements.

1. **Examination:** Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of granite. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation of granite until deficient subgrades have been corrected and are ready to receive mortar base for granite.

3. **Installation:**

A General

1. Do not use granite with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
2. Cut granite with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Use full units without cutting at all times. Hammer cutting is not acceptable.
3. **Layout:** As indicated in Plans.
4. **Hand Tight Joints:** Where Granite Planter Curb are indicated without spaced joints, set granite with hand tight joints.
5. **Tolerances:** Do not exceed 1/32 inch unit-to-unit offset from flush (lippage) and a tolerance of 1/8 inch in 10'-0" from level or slope as indicated, from end to end of granite curb.

6. Slope: All Granite Planter Curb must be laid at slope as noted on plans or as approved by the Engineer.
 7. Coordination: All work for Granite Planter Curb must be coordinated with the installation of all adjacent hardscape and landscape materials.
- B. Site Inspection - Examine the substrates on which granite will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.
- C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.
- D. Bedding Course
1. The bedding course shall be spread in a uniform layer to give a depth of 3 inches per plans. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
 2. The screeded bedding mortar shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the granite. The voids left after the removal of the screed rails shall be filled with additional mortar as the granite bedding course proceeds.
- E. Verification of Subgrade
1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Granite Planter Curb.
 2. Further construction shall not proceed until the Engineer has inspected the subgrade.
- F. Curb Installation
1. Set Granite Planter Curb on leveling course, being careful not to disturb leveling base. Install stainless steel pins per plans. Space granite per plans to allow for a mortar joint.
 2. Place mortar fill immediately after installing granite into leveling course. Spread and screed mortar level with tops and sides of granite. Clean all granite immediately after installation.

3. Remove and replace granite curbs that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed granite installations similar in material, design and extent to that indicated for Project.
- B. Field-Constructed Mock-Up: Prior to installation of granite, erect mock-ups for each form and pattern of granite required to verify selections made under sample submittals. Build mock-ups to comply with the following requirements, using materials and same base construction including special features for expansion joints and contiguous work as indicated for final unit of work.
 1. Locate mock-ups on-site to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 2. Notify Engineer one week in advance of the dates and times when mock-ups will be erected.
 3. Demonstrate quality of workmanship that will be produced in final unit of work.
 4. Obtain Engineer's acceptance of mock-ups before start of final unit of work.
 5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work. Accepted mock-ups in undisturbed condition at time of Substantial Completion may become part of completed unit of work.

Method of Measurement. This work will be measured in place in linear feet.

Basis of Payment. This work will be paid for at the contract unit price per linear foot for PLANTER CURB, installed, including all labor, equipment, and materials.

CONCRETE PLANTER WALL

Description. This work shall consist of constructing a concrete planter wall in accordance with applicable portions of Section 606 of the Standard Specifications for Road and Bridge Construction and plan details at locations shown on the plans or as directed by the Engineer. The concrete planter wall shall have the following material modifications. The material used will be supplied by Ozinga, Model # 2940: colored concrete surface in a dark grey color.

Manufacturer / Supplier. Concrete: Ozinga (www.ozinga.com – 800.874.4100)

Construction Requirements.

Ozinga mix (proprietary) dye to be added at a rate of 50 lbs per cubic yard (PSI @ 15 days 3,500). Concrete planter walls shall be sealed with SILANE SURFACE SEALER (penetrating, non-film forming, non-wet look).

Method of Measurement. This work shall be measured for payment in cubic yards placed.

Basis of Payment. This work shall be paid at the contract unit price in cubic yards for CONCRETE PLANTER WALL, which shall include all labor, equipment, and material to construct the proposed work as detailed in the plans or as directed by the Engineer.

SEATWALL 20" HT.

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing mortared Granite Planter Seatwall as defined by the limits indicated in the plans and provided details.

Materials.

1. **Granite Planter Seatwall:** Granite Planter Seatwall must be natural Granite per the specifications shown below. See plans for locations.
 - a. **Type:** Mesabi Black as manufactured by Coldspring Granite USA, Contact: Karen Olah, kmolah@coldspringusa.com, 800.551.7502
 - i. **Size:** Seatwall sections per plans
 - ii. **Finish:** Thermal finish top, split face front, saw cut all other ends, 3/4" bevel top edges as shown on plans
 - iii. **Color:** Mesabi Black

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

2. Setting Bed Materials:

- A. **Seatwall Joint Material:** Joint fill to be mortar per manufacturers recommendations. Color to match or complement granite color.
- B. **Bedding Course / Leveling Course:** Mortar setting bed per plans.
- C. **Base Course:** See plans for more information.

General Requirements.

- 1. Protect Granite Planter Seatwall and mortar materials during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
- 2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace granite work damaged by frost or freezing.
- 3. Weather Limitations: Protect granite work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of granite work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
- 4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures granite work being without damage or deterioration at time of Substantial Completion.
- 5. Clean Up: Sweep clean all paved areas of excess aggregate, mortar and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

- 1. Product Data: Provide product data and cut sheets for specified granite, setting bed, all applicable accessories, and manufacturer's standard installation details.
- 2. Shop Drawings: Provide shop drawings for all granite Seatwalls in accordance with the typical planter plan shown in plans.
- 3. Product Sample: Provide (3) three material samples for each specified granite type showing full range of color variation
- 4. Product Sample: Provide (3) three (1) one lb samples of mortar fill material in standard color range to match black granite.

Construction Requirements.

1. **Examination:** Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of granite. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation of granite until deficient subgrades have been corrected and are ready to receive mortar base for granite.
3. **Installation:**
 - A General
 1. Do not use granite with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
 2. Cut granite with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Use full units without cutting at all times. Hammer cutting is not acceptable.
 3. Layout: As indicated in Plans.
 4. Hand Tight Joints: Where Granite Planter Seatwall are indicated without spaced joints, set granite with hand tight joints.
 5. Tolerances: Do not exceed 1/32 inch unit-to-unit offset from flush (lippage) and a tolerance of 1/8 inch in 10'-0" from level or slope as indicated, from end to end of granite Seatwall.
 6. Slope: All Granite Planter Seatwall must be laid at slope as noted on plans or as approved by the Engineer.
 7. Coordination: All work for Granite Planter Seatwall must be coordinated with the installation of all adjacent hardscape and landscape materials.
 - B. Site Inspection - Examine the substrates on which granite will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.
 - C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.

D. Bedding Course

1. The bedding course shall be spread in a uniform layer to give a depth of 3 inches per plans. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
2. The screeded bedding mortar shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the granite. The voids left after the removal of the screed rails shall be filled with additional mortar as the granite bedding course proceeds.

E. Verification of Subgrade

1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Granite Planter Seatwall.
2. Further construction will not proceed until the Engineer has inspected the subgrade.

F. Seatwall Installation

1. Set Granite Planter Seatwall on leveling course, being careful not to disturb leveling base. Install stainless steel pins per plans. Space granite per plans to allow for a mortar joint.
2. Place mortar fill immediately after installing granite into leveling course. Spread and screed mortar level with tops and sides of granite. Clean all granite immediately after installation.
3. Remove and replace granite Seatwalls that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed granite installations similar in material, design and extent to that indicated for Project.

Method of Measurement. This work will be measured in place in linear feet.

Basis of Payment. The work of this Item will be paid for at the contract unit price per linear foot of SEATWALL 20" HT. installed, including all labor, equipment, and materials.

BOLLARDS

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing mortared Granite Bollards as defined by the limits indicated in the plans and provided details.

Materials.

1. **Granite Bollard:** Granite Bollards must be natural Granite per the specifications shown below. See plans for locations.
 - a. **Type:** Mesabi Black as manufactured by Coldspring Granite USA, Contact: Karen Olah, kmolah@coldspringusa.com, 800.551.7502
 - i. **Size:** Size per plans
 - ii. **Finish:** Thermal finish top, split face sides, saw cut bottom, 3/4" bevel top edges as shown on plans
 - iii. **Color:** Mesabi Black

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

2. **Setting Bed Materials:**

- A. **Bollard Joint Material:** Joint fill to be mortar per manufacturers recommendations. Color to match or complement granite color.
- B. **Bedding Course / Leveling Course:** Mortar setting bed per plans.
- C. **Base Course:** See plans for more information.

General Requirements.

1. Protect Granite Bollards and mortar materials during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace granite work damaged by frost or freezing.
3. Weather Limitations: Protect granite work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of granite work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures granite work being without damage or deterioration at time of Substantial Completion.

5. Clean Up: Sweep clean all paved areas of excess aggregate, mortar and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

1. Product Data: Provide product data and cut sheets for specified granite, setting bed, all applicable accessories, and manufacturer's standard installation details.
2. Shop Drawings: Provide shop drawings for all granite Bollards in accordance with the typical planter plan shown in plans.
3. Product Sample: Provide (3) three material samples for each specified granite type showing full range of color variation
4. Product Sample: Provide (3) three (1) one lb samples of mortar fill material in standard color range to match black granite bollard.

Construction Requirements.

1. **Examination:** Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of granite. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation of granite until deficient subgrades have been corrected and are ready to receive mortar base for granite.
3. **Installation:**
 - A General
 1. Do not use granite with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
 2. Cut granite with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Use full units without cutting at all times. Hammer cutting is not acceptable.
 3. Layout: As indicated in Plans.
 4. Hand Tight Joints: Where Granite Bollards are indicated without spaced joints, set granite with hand tight joints.
 5. Coordination: All work for Granite Bollards must be coordinated with the installation of all adjacent hardscape and landscape materials.

- B. Site Inspection - Examine the substrates on which granite will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.
- C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.
- D. Bedding Course
 - 1. The bedding course shall be spread in a uniform layer to give a depth of 3 inches per plans. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
 - 2. The screeded bedding mortar shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the granite. The voids left after the removal of the screed rails shall be filled with additional mortar as the granite bedding course proceeds.
- E. Verification of Subgrade
 - 1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Granite Bollards.
 - 2. Further construction will not proceed until the Engineer has inspected the subgrade.
- F. Bollard Installation
 - 1. Set Granite Bollard on leveling course, being careful not to disturb leveling base. Install stainless steel pins per plans. Space granite per plans to allow for a mortar joint.
 - 2. Place mortar fill immediately after installing granite into leveling course. Spread and screed mortar level with tops and sides of granite. Clean all granite immediately after installation.
 - 3. Remove and replace granite bollards that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed granite installations similar in material, design and extent to that indicated for Project.

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

Basis of Payment. This work will be paid for at the contract unit price per each for BOLLARDS, installed, including all labor, equipment, and materials.

SITE AMENITIES

Description. This work must consist of furnishing and installing benches, trash receptacles, recycling receptacles, and bike racks at the locations specified in the Contract plans or as directed by the Engineer.

General Requirements. Each item will be placed at the location indicated in the plans. The locations will be field marked and verified for approval by the Village.

Assembly.

Anchor bolts must be located with assembled item in place. All amenities must be mounted as detailed in the plans. Anchor bolts must be drilled and grouted into the concrete base for pavers, concrete wearing surface or concrete sidewalk.

Materials.

Materials must be as specified in the plans and as follows:

6' Metal Bench: 6' Metal Bench (BENCH 6') as manufactured by Victor Stanley, 800.368.2573

1. Model: CBF-12 City Sites Series as shown on plans
2. Size: 6' length
3. Finish: Black powder coat

2' Metal Bench: 2' Metal Bench (BENCHES) as manufactured by Victor Stanley, 800.368.2573

1. Model: CBF-12 SPECIAL City Sites Series as shown on plans
2. Size: 2' length
3. Finish: Black powder coat

Trash Receptacle: Trash Receptacle as manufactured by Victor Stanley, 800.368.2573

1. Model: T-45 T Series as shown on plans
2. Size: 36" height
3. Options: Removable steel top and plastic liner
4. Finish: Black powder coat
- 5.

Recycling Receptacle: Trash Receptacle as manufactured by Victor Stanley, 800.368.2573

1. Model: T-45 T Series as shown on plans
2. Size: 36" height
3. Options: Removal steel top, Recycling logo and lettering at top and plastic liner
4. Finish: Black powder coat

Bicycle Racks: Bicycle Racks as manufactured by Landscape Forms, Jennifer Woods, jenniferw@landscapeforms.com, 800.430.6206 xt.1336

1. Model: Ring Bike Rack as shown on plans
2. Size: Standard
3. Options: Embedded Installation, caulk all gaps with bluestone color matching caulk
4. Finish: Stainless Steel

Movable Planter: Movable Planter (PLANTER) as manufactured by Neri, KSA Lighting, 630-307-6955

1. Model: Planter, Salix-Heritage, as shown on plans
2. Size: As shown on plans
3. Options: Surface Mount per Village direction only
4. Finish: Black
5. Planter Fill: Lightweight planter soil, filter fabric, and pea gravel all as shown on plans. Included in the price for each Movable Planter installed.

Submittals.

Submit manufacturer's technical data for each manufactured product, including certification that each product complies with the specified requirements. In accordance with the Standard Specifications, the Contractor must submit shop drawings for the Engineer's approval showing each item completely assembled including shop drawings of its component parts.

Method of Measurement. This work will be will be measured in place per each unit installed.

Basis of Payment. This work will be paid for at the contract unit price per each for BENCH 6', BENCHES, TRASH RECEPTACLES, RECYCLING RECEPTACLE, BICYCLE RACKS, and PLANTER, which price will include labor, anchor bolts and bolt installation, equipment, materials and incidental work necessary to complete the installation as specified.

BICYCLE RACKS - FURNISH

Description. This work consist of furnishing, placing, and relocating moveable bicycle racks during staged construction at the locations directed by the Engineer.

General Requirements. Moveable bicycle racks shall be manufactured by Belson Outdoors, The Park Catalog, or Park it Bike Racks and shall be submitted to the Engineer for approval prior to furnishing. Bicycle racks should hold a minimum of 5 and maximum of 9 bicycles per each rack and shall be black colored. Locations of moveable bicycle racks during staged construction shall be determined by the Engineer. The Contractor shall place and relocate bicycle racks as necessary throughout the duration of the project and as directed by the Engineer. At the completion of the project, all moveable bicycle racks shall become the property of the Village of Oak Park and shall be delivered to the Village of Oak Park Public Works facility.

Basis of Payment. This work shall be paid for at the contract unit price per each for BICYCLE RACKS – FURNISH. The price shall include all labor, equipment, and materials to complete the work described herein. No additional compensation will be allowed.

PAVER BLOCKS, SPECIAL

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing ungrouted and mortarless Unit Bluestone Pavers as defined by the limits indicated in the plans and provided details.

Materials.

1. **Unit Bluestone Pavers:** Unit Bluestone Pavers must be natural bluestone.

- a. **Type:** Natural Bluestone
- b. **Size:** 18"x 30" x 2" thick
- c. **Finish:** Thermal, cut, smooth
- d. **Color:** Blue select thermal

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction. Pavers showing a natural cleft pattern shall be installed with the cleft on the underside (bottom) of the paver.

2. **Setting Bed Materials:**

- A. **Paver Void Fill:** Paver void fill to be polymeric sand per manufacturers recommendations. Color to match or complement paver color.
- B. **Bedding Course / Leveling Course Aggregate:** The aggregate shall conform to the requirements of Section 1004 of the Standard Specifications. The aggregate shall be sand and shall be included in the cost of PAVER BLOCKS, SPECIAL.
- C. **Geotechnical Fabric:** The geotechnical fabric shall conform to Section 282 of the Standard Specifications and shall be included in the unit cost of PAVER BLOCKS, SPECIAL. Nonwoven needle-punched geotechnical fabric, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.

Permittivity: 0.5 per second, minimum; ASTM D 4491
- D. **Base Course:** The base course shall consist of PORTLAND CEMENT CONCRETE BASE COURSE 5".

3. Specialty Materials:

- E. **Gap Sealer:** At gaps located in the concrete base course caused by appurtenances, such as handholes and utility access points, an industrial grade flexible tape sealer shall be used per Engineer direction. Tape requirements are as follows:
- 4" or more in width
 - 9.00 mil or thicker
 - Industrial Grade use
 - Polypropylene film with butyl rubber backing
 - Self adhering

General Requirements.

1. Protect Unit Bluestone Pavers and aggregate during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
3. Weather Limitations: Protect paver work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of paver work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures paver work being without damage or deterioration at time of Substantial Completion.
5. Clean Up: Sweep clean all paved areas of excess aggregate and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

1. Product Data: Provide product data and cut sheets for specified unit paver, setting bed, all applicable accessories, and manufacturer's standard installation details.
2. Product Sample: Provide (3) three full-size samples for each specified paver type showing full range of color variation
3. Product Sample: Provide (3) three (1) one lb samples of aggregate paver fill material in standard color range to match unit paving

Construction Requirements.

1. **Examination:** Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of pavers. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation of pavers until deficient subgrades have been corrected and are ready to receive subbase for pavers.
3. **Installation:**
 - A General
 1. Do not use pavers with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work. Pavers showing a natural cleft pattern shall be installed with the cleft pattern on the underside (bottom) of the paver.
 2. Cut pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
 3. Pattern: As indicated in Plans.
 4. Hand Tight Joints: Where Unit Bluestone Pavers are indicated without spaced joints, set pavers with hand tight joints.
 5. Tolerances: Do not exceed 3/16 inch offset from flush (lippage) from adjacent pavers and edges and a tolerance of 1/8 inch in 10'-0" from level or slope as indicated, for finished surface of paving.
 6. Slope: All Unit Bluestone Pavers must be laid at slope as noted on plans or as approved by the Engineer.
 7. Coordination: All work for Unit Bluestone Pavers must be coordinated with the installation of all adjacent hardscape and landscape materials.
 - B. Site Inspection - Examine the substrates on which pavers will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.
 - C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.

D. Bedding Course

1. The bedding course shall be spread loose in a uniform layer to give a depth after compaction of the pavers of 1 inches. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
2. The screeded bedding aggregate shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the pavers. The voids left after the removal of the screed rails shall be filled with loose aggregate as the paver bedding course proceeds.

E. Verification of Subgrade

1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Unit Bluestone Pavers.
2. Further construction will not proceed until the Engineer has inspected the subgrade.

F. Paver Installation

1. Set Unit Bluestone Pavers on leveling course, being careful not to disturb leveling base. Space pavers per plans to allow for a sand swept joint.
2. Place graded aggregate fill immediately after vibrating pavers into leveling course. Spread and screed aggregate fill level with tops of pavers.
3. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed paver installations similar in material, design and extent to that indicated for Project.
- B. Field-Constructed Mock-Up: Prior to installation of pavers, erect mock-ups for each form and pattern of pavers required to verify selections made under sample submittals. Build mock-ups to comply with the following requirements, using materials and same base construction including special features for expansion joints and contiguous work as indicated for final unit of work.
 1. Locate mock-ups on-site to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

2. Notify Engineer one week in advance of the dates and times when mock-ups will be erected.
3. Demonstrate quality of workmanship that will be produced in final unit of work.
4. Obtain Engineer's acceptance of mock-ups before start of final unit of work.
5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work. Accepted mock-ups in undisturbed condition at time of Substantial Completion may become part of completed unit of work.

Method of Measurement. This work will be measured in place in square feet.

Basis of Payment. This work will be paid for at the contract unit price per square foot for PAVER BLOCKS, SPECIAL, installed, including all labor, equipment, and materials.

BRICK PAVERS

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing un-grouted and mortar-less Unit Clay Brick Pavers for heavy vehicle applications as defined by the limits indicated in the plans and provided details.

Qualifications of Installer. Installer shall have a minimum of five years of experience installing clay pavers in a bituminous setting bed and be able to provide references and examples of similar installations upon the request of the Engineer.

Materials.

1. **Unit Brick Pavers:** Unit Brick Pavers must be Whitacre Greer that comply with ASTM C1272 Type R Application PS.
 - a. **Type:** Boardwalk Series
 - b. **Size:** 3"x3"x9"
 - c. **Finish:** Cobbled
 - d. **Color:** #36

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

2. Setting Bed Materials:

1. **Paver Void Fill:** Paver void fill to be polymeric sand per manufacturers recommendations. Test results from an independent testing laboratory for sieve analysis per ASTM C 136 conforming to the grading requirements of ASTM C 144.

2. **Bedding Course / Leveling Course:** The leveling course shall be a bituminous setting bed that meets the requirements of asphalt cement/binder complying with ASTM D3381 or ASTM D6373. Fine aggregate shall comply with ASTM D1073 or ASTM D3515. The bituminous setting bed will not be measured separately, but shall be included in the cost of BRICK PAVERS.
3. **Tack Coat:** Tack coat shall be emulsified asphalt complying with ASTM D977, Type SS-1 or SS-1h or cutback asphalt complying with ASTM D2028 and shall included in the cost of BRICK PAVERS.
4. **Base Course:** The base course shall consist of HIGH-EARLY STRENGTH PORTLAND CEMENT CONCRETE BASE COURSE 9" for intersection pavement applications and PORTLAND CEMENT CONCRETE BASE COURSE 6" for driveway and alley apron applications.
5. **Subbase Material:** The base course shall be constructed over AGGREGATE SUBGRADE IMPROVEMENT 12" for intersection pavement applications and SUBBASE GRANULAR MATERIAL, TYPE B 4" for driveway and alley apron applications.
6. **Geotechnical Fabric:** The geotechnical fabric shall conform to Section 282 of the Standard Specifications and will be measured separately and paid for as GEOTECHNICAL FABRIC FOR GROUND STABILIZATION. Nonwoven needle-punched geotechnical fabric, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.

Permittivity: 0.5 per second, minimum; ASTM D 4491

General Requirements.

1. Protect Unit Brick Pavers and aggregate during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
3. Weather Limitations: Protect paver work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of paver work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures paver work being without damage or deterioration at time of Substantial Completion.

5. Clean Up: Sweep clean all paved areas of excess aggregate and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

1. Product Data: Provide product data and cut sheets for specified unit paver, setting bed, all applicable accessories, and manufacturer's standard installation details.
2. Product Sample: Provide (3) three full-size samples for each specified paver type showing full range of color variation
3. Samples for Initial Selection: Provide three representative samples in containers of Polymeric Joint Sand material, cured and dried, for color selection.
4. Product Sample: Provide (3) three (1) one lb samples of Polymeric Joint Sand in standard color range to match or complement unit paving.

Construction Requirements.

1. **Examination:** Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of pavers. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation of pavers until deficient subgrades have been corrected and are ready to receive subbase for pavers.
3. **Installation:**
 - A General
 1. Do not use pavers with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
 2. Cut pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
 3. Pattern: As indicated in Plans.
 4. Hand Tight Joints: Where Unit Brick Pavers are indicated without spaced joints, set pavers with hand tight joints.

5. Tolerances: Do not exceed 1/16 inch unit-to-unit offset from flush (lippage) and a tolerance of 1/8 inch in 10'-0" from level or slope as indicated, for finished surface of paving.
 6. Slope: All Unit Brick Pavers must be laid at slope as noted on plans or as approved by the Engineer.
 7. Coordination: All work for Unit Brick Pavers must be coordinated with the installation of all adjacent hardscape and landscape materials.
- B. Site Inspection - Examine the substrates on which pavers will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.
- C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.
- D. Tack Coat
1. The proposed concrete base course shall be cleaned of all dust, debris, and oil prior to installation of tack coat. The tack coat, should be installed when the ambient temperature is above 50 °F (10 °C). The surface of the base material should be thoroughly clean and dry before application. The tack coat should not be applied if rain is likely before placing the setting bed.
 2. The tack coat should be thoroughly mixed and heated to the appropriate application temperature, taking all necessary safety precautions. The tack coat should not be diluted. It should be uniformly applied by spraying, brushing or squeegeeing to the top of the base and to all surfaces that will be in contact with bituminous setting bed. The application rate should be established before the work starts. As work progresses, the rate can be verified by marking out the area that one pail or drum will cover. The installer should not apply more tack coat at any time than can be covered with the bituminous setting bed during the same day.
 3. Emulsified asphalt tack coats are typically applied at a rate of 0.9 to 1.3 gal per 100 ft² (3.6 to 5.3 liters per 10.0 m²) to concrete bases and 0.6 to 1.0 gal per 100 ft² (2.5 to 4.1 liters per 10.0 m²) to asphalt bases. Cutback asphalt tack coats are typically applied at a rate of 1.2 to 1.5 gal per 100 ft² (4.8 to 6.1 liters per 10.0 m²) to concrete bases and 1.0 to 1.3 gal per 100 ft² (4.1 to 5.3 liters per 10.0 m²) to asphalt bases. Once applied the tack coat should not be disturbed and should be allowed to cure or break before covering with the setting bed material. This may take a few hours dependent on weather conditions.

4. The tack coat should be applied to the base in a thin, continuous, uniform layer. If it is applied too thin or so that some areas of the base remain uncoated, the setting bed will not bond properly, creating a weakness or layer separation in the pavement. This can be detrimental if water accumulates and freezes in the separated area. If too much tack coat is applied, the thicker areas can create a slip plane, or the tack coat can penetrate the bituminous setting bed material and reduce its stability. These issues become more critical as the amount of vehicular traffic increases.

E. Bituminous Setting Bed

1. Asphalt shall be spread over the PCC base course to the depth indicated on the plans as a setting bed for pavers. Temperature should be above 40°F (4 °C) before placing setting bed material. Depth-control rails should be set on the existing surface to proper line and level using shims to account for surface irregularity. Allowance should be made for compaction of the bituminous mix, not only during construction but also in service. An experienced contractor will increase the thickness for different conditions so as to achieve the correct long-term surface profiles. Without additional recommendations, the setting bed thickness should be established so that when the pavers are fully set on the adhesive layer, their top surface will be about $\frac{1}{8}$ in. (3.1 mm) above the required grades to allow for future settlement.
2. Setting bed material should be delivered to the job site in trucks with steel linings that are clean and have not been treated with materials (e.g., gasoline, kerosene, etc.) detrimental to the asphalt mix. To retain heat, the bituminous mixture should be covered prior to use. The temperature of the setting bed material at the time of delivery should not be less than 260 °F (127 °C) or more than 320 °F (160 °C). The installer should work quickly to spread and roll the material before it cools below 180 °F (82 °C).
3. When installing by hand, small orders of 1 or 2 tons (900 to 1800 kg) are generally all that can be handled before the mixture cools. Aggregate particles within the mixture $\frac{3}{8}$ in. (9.5 mm) or larger should be removed during installation. Steel depth control rails, typically 12 ft. (3.6 m) long, are set up at 8 to 12 ft (2.4 to 3.6 m) centers on shims to achieve a uniform profile. The compacted setting bed should be within $\pm\frac{1}{8}$ in. (3.2 mm) of $\frac{3}{4}$ in. (19.1 mm) in thickness.
4. Care should be taken to ensure that release agents applied to the screed rails and tools do not cause damage to the bituminous setting bed. The hot bituminous material should be spread over the tack-coated base and screeded to the appropriate profile between the depth control rails. The screeded panels should be advanced across the pavement as each screed rail length is completed. To minimize foot traffic on the screeded material, alternate panels should be constructed so that the screed rails and shims can be removed without disturbing the screeded material. The infill panel is screeded using the edges of the two outside panels to set the thickness.

5. Fill low spots and depressions with additional hot material as the work progresses to produce a firm even surface. Prior to filling, a depth of at least ¼ in. (6.3 mm) should be formed around the edges of low spots to avoid creating feather edges that could deteriorate prematurely. Low spots must not be filled with other materials. During installation of the setting bed the levels and surface profiles should be verified by fully compacting a small area of the setting bed. Care should be taken to compact the bituminous material to a uniform density and surface texture while still hot. This can be achieved with a light power roller in static mode. If the setting bed is not adequately compacted, the adhesive will be over applied and will be squeezed through the joints to the surface as the setting bed is further compacted in service. This more frequently happens when the bituminous material has cooled below the appropriate working temperature.
6. The extent of the bituminous bed installed can be equal to two to three days of subsequent paver installation. Setting bed that is not covered by pavers should be protected from rain, dust and traffic. If any contamination or damage occurs, the affected areas of setting bed should be removed and replaced to their full depth.
7. Neoprene Adhesive: Neoprene modified asphalt adhesives are proprietary materials that should be prepared in accordance with the manufacturer's instructions. The adhesive should be applied by trowel, brush or squeegee to achieve a uniform coat of adhesive no more than 1/16 in. (1.6 mm) thick over the top of the bituminous setting bed. Typical application rates are between 2 and 3 gal per 100 ft² (8.2 to 12.3 liters per 10.0 m²). To ensure that sufficient adhesive is being applied, occasionally lift random pavers during installation to verify complete coating of the underside with adhesive. If too much adhesive is used it may ooze up to the surface through the joints. The adhesive should be permitted to become tacky before placing the pavers. This may take two to three hours after spreading, dependent on climatic conditions. While the adhesive is becoming tacky the installer may establish string lines to maintain the pattern.

F. Paver Installation

1. Setting bed shall be protected from damage prior to setting pavers. Unit pavers shall be set on bituminous setting bed. Setting shall be done by competent workmen under adequate supervision, and in accordance with manufacturer's recommendations.
2. Pavers with chips, cracks, or other structural or aesthetic defects or those rejected by the Engineer shall not be used. Pavers shall be set true to the required lines and grades in the pattern detailed on the Plans.

3. Pavers shall be tightly butted. Joints between pavers shall be uniform and shall not exceed 1/16" minimum and 1/8" maximum. There shall be no raised edges that could allow someone to trip for either pavers or materials adjacent to pavers. The tolerance for such edges shall be 0" - 1/16" maximum in range.
4. After a sufficient area of pavers has been installed, the pavers shall be compacted by running a mechanical vibratory compactor over the paved surface until the pavers are uniformly leveled, true to grade, and totally immobilized.
5. To reduce dust during paver installation, pavers shall only be cut using wet masonry or concrete saws. Cut edges shall be plumb and straight. Scoring and breaking shall not be acceptable.
6. Joints between pavers shall be filled by sweeping sharp sand into the joints. When joints are filled, paver surfaces shall be swept clean of sand. Paver edgings shall be installed per manufacturer's recommendations.
7. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
8. After completion of the pavers, paver installation areas shall be thoroughly swept clean and surface shall be left unsoiled. Where required by the Engineer, surface shall be cleaned with water or an approved cleaner. Protect newly laid pavers with plywood or carpeting as the work progresses. If additional leveling is required, you must protect the surface to avoid chipping.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed paver installations similar in material, design and extent to that indicated for Project.
- B. Field-Constructed Mock-Up: Prior to installation of pavers, erect mock-ups for each form and pattern of pavers required to verify selections made under sample submittals. Build mock-ups to comply with the following requirements, using materials and same base construction including special features for expansion joints and contiguous work as indicated for final unit of work.
 1. Locate mock-ups on-site to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

2. Notify Engineer one week in advance of the dates and times when mock-ups will be erected.
3. Demonstrate quality of workmanship that will be produced in final unit of work.
4. Obtain Engineer's acceptance of mock-ups before start of final unit of work.
5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work. Accepted mock-ups in undisturbed condition at time of Substantial Completion may become part of completed unit of work.

Method of Measurement. This work will be measured in place in square feet.

Basis of Payment. This work will be paid for at the contract unit price per square foot for BRICK PAVERS, installed, including all labor, equipment, and materials.

GATEWAY MONUMENT SIGN COMPLETE

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing mortared granite curbs, granite columns, granite signage wall, bronze panels, and pedestrian streetlight (special) as defined by the limits indicated in the plans and provided details.

Materials.

1. **Granite:** Granite must be natural Granite per the specifications shown below . See plans and details for configuration.
 - a. **Type:** Mesabi Black as manufactured by Coldspring Granite USA, Contact: Karen Olah, kmolah@coldspringusa.com, 800.551.7502
 - i. **Size:** Size per plans
 - ii. **Finish:**
 1. **Granite PlanterSeatwall:** Thermal finish on exposed sides (front, top, and top 6" of back side); split face front and extending 6" below top of wall on back; saw cut finish on back side except top 6"; cut ends, 3/4" bevel as shown on plans.
 2. **Granite Signage Wall:** Thermal finish on exposed sides (front, top, and top 12" of back side); saw cut finish for back side except top 12"; cut ends, 3/4" bevel as shown on plans, smooth face at granite signage wall for bronze panel application.

3. **Columns:** Thermal finish on exposed sides and top; split face sides on two exposed sides and also above the elevations of the signage wall and seatwall; saw cut finish on two sides abutting sign and seat wall below split face finish elevation to allow for seamless fit, cut ends.
 - iii. **Color:** Mesabi Black

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

2. Granite Setting Bed Materials:

- D. **Granite Joint Material:** Joint fill to be mortar per manufacturers recommendations. Color to match or complement granite color.
- E. **Bedding Course / Leveling Course:** Mortar setting bed per plans.
- F. **Base Course:** See plans for more information.

3. Bronze Panels:

Panels must be casted or cut bronze per the specifications shown below. See plans and details for configuration and quantity.

- a. **Type:** Bronze panels per plans. Panels to be fabricated in one piece. Must not be glued or fastened in any way. Engineer to provide artwork to fabricator prior to commencement of work. Fabricator to provide shop drawings for approval by Engineer.
 - i. **Size:** Size per plans
 - ii. **Finish A:** Antiqued finish – base of panel
 - iii. **Finish B:** Polished finish with brushed face – raised letter
 - iv. **Color:** Natural bronze

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

4. In Ground LED Light:

Light previously installed under a separate contract. Protect during construction. Specifications shown below for reference.

- a. **Type:** Model ETV140, Part ID 612-4020 as manufactured by WE-EF, Contact: Annie Abdelnour, AAbdelnour@forcechicago.com, 773.673.2006 Force Partners
 - i. **Size:** +/- 48" luminaire modules
 - ii. **Beam Type:** Linear asymmetric, wall wash
 - iii. **Type:** 240/ 30W - 3000 K
 - iv. **Finish:** Aluminum
 - v. **Options:** Installation Blockout Type II, Part ID 612-9342, BEV 140-II-2/1227 (holds 2 luminaires)
 - vi. **Color:** RGB W

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

5. **Pedestrian Streetlight (special):** Light previously installed under a separate contract on concrete column foundation. Remove and reinstall on granite column. This work shall be paid for as RELOCATE EXISTING LIGHTING UNIT. Light must be per the specifications for PEDESTRIAN ST LIGHT with modifications as shown below. See plans and details for configuration and quantity.
 - a. **Type:** Paid for under a separate contract.
 - i. **Height:** To match PEDESTRIAN ST LIGHT from 3' mount height on top of granite column as shown on plans and details.

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

General Requirements.

1. Protect all products and mortar materials during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
2. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace granite work damaged by frost or freezing.
3. Weather Limitations: Protect granite and masonry work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of granite work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
4. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures granite work being without damage or deterioration at time of Substantial Completion.
5. Clean Up: Sweep clean all paved areas of excess aggregate, mortar and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

1. Product Data: Provide product data and cut sheets for specified granite, setting bed, all applicable accessories, bronze panels, in ground LED light, and manufacturer's standard installation details.
2. Shop Drawings: Provide shop drawings for all granite in accordance with the typical plan and details shown in plans. Provide shop drawings for all bronze panels. Provide photometrics and layout for all in ground LED lights. Provide shop drawings showing coordination and connection points for PEDESTRIAN ST LIGHT at granite column.
3. Product Sample: Provide (3) three material samples for each specified granite and bronze type showing full range of color variation.

4. Product Sample: Provide (3) three (1) one lb samples of mortar fill material in standard color range to granite

Construction Requirements.

1. **Examination:** Examine surfaces indicated to granite, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of granite. Do not proceed with installation until unsatisfactory conditions have been corrected.
2. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation until deficient subgrades have been corrected and are ready to receive mortar base for granite.
3. **Installation:**
 - A General
 1. Do not use granite or any products with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
 2. Cut granite with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cuts to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting at all times. Hammer cutting is not acceptable.
 3. Layout: As indicated in Plans.
 4. Hand Tight Joints: Where granite is indicated without spaced joints, set granite with hand tight joints.
 5. Tolerances: Do not exceed 1/32 inch unit to unit offset from flush (lippage) and a tolerance of 1/8 inch in 10' 0" from level or slope as indicated, from end to end of Granite Planter Seatwall and Signage Wall.
 6. Slope: All Granite Planter Seatwall and Signage Wall must be laid at slope as noted on plans or as approved by the Engineer.
 7. Coordination: All work for GATEWAY MONUMENT SIGN COMPLETE must be coordinated with the installation of all adjacent hardscape and landscape materials.
 - B. Site Inspection - Examine the substrates on which granite will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.

- C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.

- D. Bedding Course
 - 1. The bedding course shall be spread in a uniform layer to give a depth of 3 inches per plans. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
 - 2. The screeded bedding mortar shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the granite. The voids left after the removal of the screed rails shall be filled with additional mortar as the granite bedding course proceeds.

- E. Verification of Subgrade
 - 1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Granite.
 - 2. Further construction will not proceed until the Engineer has inspected the subgrade.

- F. Installation
 - 1. Set Granite on leveling course, being careful not to disturb leveling base. Install stainless steel pins per plans. Space granite per plans to allow for a mortar joint.
 - 2. Place mortar fill immediately after installing granite into leveling course. Spread and screed mortar level with tops and sides of granite. Clean all granite immediately after installation.
 - 3. Remove and replace granite pieces that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
 - 4. Caulk all granite joints and joint at base of granite at bluestone with black elastomeric caulk.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed granite and signage installations similar in material, design and extent to that indicated for Project. Provide references with examples of similar work for bronze panel signage and for similar masonry work.

- B. Field-Constructed Mock-Up of Signage Wall: Prior to installation of granite sign wall and bronze panels, erect mock ups for each form for granite sign wall and mock –up of bronze lettering to verify spacing and exact locations of lettering. Sign wall mock-up shall have same joint spacing as granite sign wall spacing to verify locations for bronze panels. Mock-ups shall be painted to approximate final finishes of granite and bronze and use similar attachment methods to verify any horizontal offsets of bronze panels from sign wall.
 - 1. Locate mock-ups on-site to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 2. Notify Engineer one week in advance of the dates and times when mock-ups will be erected.
 - 3. Demonstrate quality of workmanship that will be produced in final unit of work.
 - 4. Obtain Engineer’s acceptance of mock-ups before start of final unit of work.
 - 5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work. Accepted mock-ups in undisturbed condition at time of Substantial Completion may become part of completed unit of work.

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

Basis of Payment. This work will be paid for at the contract unit price per each for GATEWAY MONUMENT SIGN COMPLETE, installed, including all labor, equipment, and materials.

REMOVE TEMPORARY AGGREGATE FILL

Description. This work consists of the removal and disposal of the existing aggregate backfill in the granite specialty feature area to the depths shown on the contact plans to the existing subgrade to provide for a two feet deep planting soil bed. All work is to be done in accordance with the applicable portions of Section 440 of the Standard Specifications, the details included in the plans and special provisions, and as directed by the Engineer.

General Requirements. The Contractor shall protect existing bluestone sidewalks during all work with plywood or similar methods. The Contractor shall use equipment appropriately sized to avoid damaging bluestone such as mini-excavators and hand tools.

Any bluestone pavers which the Contractor removes to facilitate aggregate removal which are not in conflict with the proposed granite planter will not be measured for payment as BRICK PAVER REMOVAL AND REINSTALLATION, SPECIAL. Any bluestone pavers damaged by the Contractor shall be replaced by the Contractor and not will not be measured for payment.

The Contractor shall protect the existing irrigation sleeves and electric conduits and foundations in the removal area. The Contractor shall not stockpile existing aggregate on-site and it shall be loaded onto trucks for disposal at the same time as the excavation. At no time shall aggregate be stockpiled on bluestone pavers without first protecting pavers with plywood or other methods.

The Contractor shall remove any existing barricades or temporary fencing securing the site and stockpile them for pickup on-site. Costs for removing any barricades or fencing will not be measured for payment and is included in the contract price for GATEWAY MONUMENT SIGN COMPLETE.

The area is to be excavated to the lines and grades as shown on the contract plans and as directed by the Engineer which is necessary for the placement of the proposed Planting Soil Mix.

Method of Measurement and Basis of Payment. This work shall not be measured for payment and shall be included in the unit price for GATEWAY MONUMENT SIGN COMPLETE which price shall include all labor, materials, and equipment necessary for the removal and disposal of the existing aggregate pavement to complete the work as specified.

ORNAMENTAL SIGN POST

Description. Work under this item shall be performed according to all applicable sections of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified. This work shall consist of installing mortared bases and ornamental sign post as defined by the locations indicated in the plans and provided details.

Materials.

6. **Granite Base:** Granite must be natural Granite per the specifications shown below. See plans and details for configuration.
 - a. **Type:** Mesabi Black as manufactured by Coldspring Granite USA, Contact: Karen Olah, kmolah@coldspringusa.com, 800.551.7502
 - i. **Size:** Size per plans
 - ii. **Finish:** Thermal finish top, split face sides, saw cut bottom, saw cut areas where granite curbs meet base. 3/4" bevel top edges as shown on plans.
 - iii. **Color:** Mesabi Black

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

7. Granite Setting Bed Materials:

- G. **Granite Joint Material:** Joint fill to be mortar per manufacturer's recommendations. Color to match or complement granite color.
- H. **Bedding Course / Leveling Course:** Mortar setting bed per plans.
- I. **Base Course:** See plans for more information.

8. **Ornamental Sign Post Assembly:** Sign Post Assembly must be per the specifications shown below. See plans and details for configuration and quantity.
 - a. **Type:** Fluted ornamental post as manufactured by Sternberg, Contact: Jeff First, JFirst@ksalighting.com, 708.268.7555 KSA Lighting
 - i. **Size:** 10' height
 - ii. **Post Type:** 450 Lexington Series - 4" dia. Fluted pole .125 wall thickness 6061-T6 structural grade aluminum
 - iii. **Finish:** All parts of the assembly shall be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.
 - iv. **Options:** Removable cast aluminum center ball cap, hand hole with cover secured by stainless steel allen head screws with one ground screw, 10 1/2" dia. Base cover (Part 450B) secured with stainless steel screws. .750 floor thickness four anchor bolts
 - v. **Not Included:** Illuminated parking garage sign, mounting brackets for sign, by others

Visual inspection - All units shall be sound and free of defects that would interfere with proper placing of the unit or impair the strength or performance of the construction.

General Requirements.

6. Protect all products and mortar materials during storage and construction against wetting by rain, snow, or ground water and against soil or contamination from earth and other materials.
7. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace granite work damaged by frost or freezing.
8. Weather Limitations: Protect granite and masonry work against freezing when atmospheric temperature is 40 deg F (4 deg C) and falling. Heat materials and provide temporary protection of completed portions of granite work. Comply with International Masonry all-weather Council's "Guide Specification for Cold-Weather Masonry Construction."
9. Provide final protection and maintain conditions in a manner acceptable to Installer, which ensures granite work being without damage or deterioration at time of Substantial Completion.
10. Clean Up: Sweep clean all paved areas of excess aggregate, mortar and dirt. Pick up and remove from the site any surplus materials, equipment, and debris resulting from this section of work.

Submittals.

5. Product Data: Provide product data and cut sheets for specified granite, setting bed, all applicable accessories, bronze panels, in ground LED light, and manufacturer's standard installation details.
6. Shop Drawings: Provide shop drawings for all granite in accordance with the typical plan and details shown in plans. Provide shop drawings for ornamental sign post assembly as shown in plans.
7. Product Sample: Provide (3) three material samples for each specified granite and finish type/ color showing full range of color variation.
8. Product Sample: Provide (3) three (1) one lb samples of mortar fill material in standard color range to granite

Construction Requirements.

4. **Examination:** Examine surfaces indicated to granite, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of granite. Do not proceed with installation until unsatisfactory conditions have been corrected.

5. **Preparation:** Inspect prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not proceed with installation until deficient subgrades have been corrected and are ready to receive mortar base for granite.

6. **Installation:**

A General

1. Do not use granite or any products with chips, cracks, voids, discoloration, and other defects that might be visible or cause staining in finished work.
2. Cut granite with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Use full units without cutting at all times. Hammer cutting is not acceptable.
3. Layout: As indicated in Plans.
4. Hand Tight Joints: Where granite is indicated without spaced joints, set granite with hand tight joints.
5. Coordination: All work for ORNAMENTAL SIGN POST must be coordinated with the installation of all adjacent hardscape and landscape materials.

B. Site Inspection - Examine the substrates on which granite will be laid and the conditions under which the work will be performed. Notify the Engineer of any unsatisfactory conditions. Do not proceed with the work until all unsatisfactory conditions have been corrected.

C. Site Preparation - All subdrained or underground services within the pavement area must be completed in conjunction with subgrade preparation and before the commencement of base construction.

D. Bedding Course

1. The bedding course shall be spread in a uniform layer to give a depth of 3 inches per plans. The contractor shall screed the bedding course using either a mechanical screed beam apparatus or by the use of screed guides and boards.
2. The screeded bedding mortar shall not be subjected to any traffic by either mechanical equipment or pedestrian use prior to the installation of the granite. The voids left after the removal of the screed rails shall be filled with additional mortar as the granite bedding course proceeds.

E. Verification of Subgrade

1. The Contractor shall verify that the subgrade has been adequately prepared and protected from damage by other trades prior to installation of Granite.
2. Further construction will not proceed until the Engineer has inspected the subgrade.

F. Installation

1. Set Granite on leveling course, being careful not to disturb leveling base. Install stainless steel pins per plans. Space granite per plans to allow for a mortar joint.
2. Place mortar fill immediately after installing granite into leveling course. Spread and screed mortar level with tops and sides of granite. Clean all granite immediately after installation.
5. Remove and replace granite pieces that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

QA/QC Requirements.

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed granite and signage installations similar in material, design and extent to that indicated for Project.

Method of Measurement. This work will be measured in place per each sign post installed.

Basis of Payment. This work will be paid for at the contract unit price per each for ORNAMENTAL SIGN POST, installed, including all labor, equipment, and materials.

COLORED PORTLAND CEMENT CONCRETE CROSSWALK, 13 INCH

Description. This work shall consist of constructing Colored PCC Crosswalks as shown in the contract plans and as directed by the Engineer.

Materials. The proposed Colored PCC Crosswalk pavement shall be high-early strength Portland cement concrete pavement that meets or exceeds Illinois Department of Transportation specifications for Class PP Portland cement or white Portland cement concrete for pavement.

The concrete mixture shall include a 3/4-inch synthetic polypropylene fiber for concrete plastic shrinkage control meeting or exceeding ASTM C1116 Type III 4.1.3 specification. W.R. Grace Microfiber Liquid Mesh shall be used at a rate of 40 ounces per cubic yard of concrete.

The Contractor shall provide a suitable mix design to the Village of Oak Park and the Engineer for review and approval prior to placement. The following mix design has been successfully used by the Village of Oak Park.

Usage / Placement exterior concrete
 Air Content 6.5% +/- 1.5%
 Slump 3" +/- 1"
 Design Strength 5,000 psi
 Unit Weight 146.2 lbs / cu. ft.
 Water / Cement Ratio 0.39

Table 1 for Blue Colored Concrete

Material Type	Description	Source	Standard
Coarse Aggregate	3/4" crushed limestone	-	ASTM C33 Aggregate
Fine aggregate	Concrete Sand	-	ASTM C33 Aggregate
Cement	Cementa	-	C150
Admixture	air entrainment	W.R. Grace-42147	ASTM C260
Admixture	Water Reducer TY-A(110)	W.R. Grace-43870	ASTM C494
Water	Water (lbs)	-	ASTM C1602 Water

Table 1 Notes:

1. Admixtures are added as needed.
2. W.R. Grace Mira 110: 21 ounces per cubic yard
3. W.R. Grace Liquid Fiber Mesh: 40 ounces per cubic yard
4. Increte Color: # 570 Philly Blue (at manufacturer's recommended dosage)

Table 2 for White Colored Concrete

Material Type	Description	Source	Standard
Coarse Aggregate	3/4" crushed limestone	-	ASTM C33 aggregate
Fine aggregate	White Silica Sand	-	ASTM C33 aggregate
Cement	White Portland Cement	Federal White Cement	C150
Admixture	Air Entrainment	W.R. Grace-42147	ASTM C260
Admixture	Water Reducer TY-A(110)	W.R. Grace-43870	ASTM C494
Water	Water (lbs)	-	ASTM C1602 Water
Slag Cement	40% of Cementitious Material by Weight	Skyway Cement Company	ASTM C989

Table 2 Notes:

1. Admixtures are added as needed.
2. W.R. Grace Mira 110: 21 ounces per cubic yard
3. W.R. Grace Liquid Fiber Mesh: 40 ounces per cubic yard

General Construction Requirements. If the new colored Portland cement concrete pavement must be placed in two or more pours, the Contractor shall tie the pours together using No. 8 x 30" tie bars at 12" on center. The cost of furnishing and installing the dowel bars shall be considered included in the cost of the proposed Colored PCC Crosswalk pay item.

The colored concrete pavement shall be given a final finish by brushing with a whitewash brush. The brush shall be drawn across the pavement at right angles to the edges of the walk with adjacent strokes slightly overlapping thus producing a uniform, slightly roughened surface with parallel brush marks.

All joints between abutting concrete pours shall be "factory edge" joints or the finest, narrowest tooled joint that is possible.

Prior to placing final white concrete, the Contractor shall provide a mockup of the white mix design concrete for Village of Oak Park for viewing, review, and approval. The mockup shall be a minimum of 2 to 4 CU YD but can be as large as single crosswalk which consists of two white concrete crosswalk lines, edge of pavement to edge of pavement. If the latter is chosen and the Village of Oak Park approves, this single crosswalk shall be left in place. The cost of one mockup shall be included in the cost of this item only if the Engineer disapproves of the first mockup.

Pigmented Admixtures for Portland Cement

Blue Concrete

In order to match previously placed blue colored concrete on Marion Street, the proposed colored concrete admixture shall be from Increte Systems of Odessa, Florida. No other brand or manufacturer will be allowed.

The specific Increte product shall be Increte Systems Color-Crete Integral Color 570 Philly Blue. The Philly Blue color admixture shall be used at the manufacturer's recommended dosage. The proposed integrally pigmented admixture shall be fully compatible with Illinois Department of Transportation Class PP, Portland cement concrete for pavement.

Fine Aggregate for Portland Cement Concrete and Class PP Concrete

The gradation for fine aggregate for Portland Cement Concrete and Class PP Concrete shall conform to gradation FA 1 as called for under Article 1003.02(c) of the Standard Specifications.

Concrete Surface Sealer

A Silane Surface Sealer (penetrating sealer) shall be applied to all new finished colored concrete pavements in accordance with the requirements of Section 587 of IDOT's Standard Specifications for Road and Bridge Construction (latest edition) and as amended in this special provision.

The penetrating sealer materials shall be applied at the maximum application rate and after the recommended curing time listed in the current Illinois Department of Transportation Bureau of Materials and Physical Research Approved List of Concrete Sealers. Concrete surface sealer shall be measured for payment as SILANE SURFACE SEALER.

Concrete Joint Sealant

The Contractor shall apply a sealant in the surface joint between white concrete pavement and blue concrete pavement. The sealant shall be clear colored, thermoplastic, non-staining, and non-sagging, and it shall skin over tack free. The packaging of the sealant shall explicitly state that the sealant is for outdoor use.

The concrete pavements shall be fully cured and dried before sealant application. This may require as much as 3 to 4 weeks. If surfaces are dusty, they shall be blown or brushed free and cleaned. Mold release agents or curing agents should be removed, as they will prevent good adhesion.

For neatness of joint, adjacent surfaces can be masked with tape. Apply sealant in the joint. Tool the surface for appearance and ensure adequate adhesion between the sealant and the concrete pavements. Dry tooling is preferred. As soon as application and tooling is complete, remove any masking tape. In joints up to 1/2" wide, the depth of the sealant should be equal to the width, but not less than 1/8". When joints are greater than the desired depth, they should be packed with a supplementary material such as backer rod.

Saw Cut Joints

Within 24 hours after the proposed Colored PCC Crosswalk has been poured, the Contractor shall sawcut joints to the dimensions shown in the plan detail. The sawcut shall be 2" depth and the blade shall be pulled back near the end of the joint to avoid damaging adjacent pavement crosswalk pavement and joints. Saw cuts will not be measured for payment but shall be included in the cost of this item.

Surface Protection

The Contractor shall cover the proposed Colored PCC Crosswalk after sawcut operations with polyethylene film or craft paper. Crosswalks shall remain covered until adjacent pavement structures have been built. Any damaged crosswalks shall be cleaned, repaired, or replaced, as directed by the Engineer, at no additional cost to the contract.

Method of Measurement. This work shall be measured for payment in place, and the area computed in square feet.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for COLORED PORTLAND CEMENT CONCRETE CROSSWALK, 13 INCH, which shall include all labor, equipment, and materials to complete the work as outlined in the plans and special provisions.

PORTLAND CEMENT CONCRETE BASE COURSE 5"

Description. This work shall consist of constructing a reinforced 5" PCC Base Course as shown on the plans or as directed by the Engineer in accordance with Section 353 and 420 of the Standard Specifications for Road and Bridge Construction. Welded wire fabric and weep holes shall be installed as shown in the plan details and will not be measured for payment but shall be included in the cost of the proposed PCC Base Course.

Materials. The Contractor shall use a high-early-strength mix (Class PP) according to article 1020 of the Standard Specifications approved by the Engineer to minimize impacts to adjacent businesses and minimize construction duration. Welded wire reinforcement shall be 6" x 6" W2.0X W2.0 and shall be in accordance with section 420 and article 1006.10 of the Standard Specifications.

Method of Measurement. This work shall be measured for payment in place and the area computed in square yards.

Basis of Payment. This work shall be paid at the contract unit price per square yard for PORTLAND CEMENT CONCRETE BASE COURSE 5", which shall include all labor, equipment, and materials to complete the work as shown on the Plans or as directed by the Engineer.

PORTLAND CEMENT CONCRETE BASE COURSE (VARIABLE DEPTH)

Description. This work shall consist of constructing a Portland cement concrete base course along the proposed curb & gutter adjacent to existing pavement as shown in the plans and as directed by the Engineer in accordance with applicable portions of Section 353 and 606 of the Standard Specifications.

Construction Requirements. The Contractor shall saw cut a full depth, clean edge following the alignment of the proposed curb and gutter offset by 1 foot and shall remove and dispose of the existing pavement. When the proposed curb and gutter offset is located inside the existing edge of pavement a max pay limit of 1 foot will be allowed. When the proposed curb and gutter offset is located behind the existing edge of pavement, the proposed PCC base course shall be extended from the existing edge of pavement to the proposed edge of pavement. Saw cutting existing pavement shall be included in the cost of this item. Pavement removal shall be measured for payment as PAVEMENT REMOVAL.

The bottom of the base course shall be the same elevation as the bottom of the adjacent pavement structure. The bottom of the base course shall be placed on a minimum bedding of 4" compacted CA-6. The compacted CA-6 bedding material shall be included in the cost of this item. The top of the base course shall be flush with the bottom of the proposed polymerized HMA binder course. Transverse joints shall line up with joints in the proposed curb and gutter and shall have epoxy tie bars at the same elevation and of the same type, size, and spacing contained in the curb and gutter. Reinforcement bars will not be measured for payment but shall be included in the cost of the various curb and gutter items and various PCC base course items.

Where this item is used for temporary conditions adjacent to proposed curb and gutter, the Contractor shall provide an Engineer approved bond breaker along the edge of pavement to prevent damage to proposed curb during installation and removal. Reinforcement bars shall be omitted between the base course and curb and gutter for temporary applications. The approved bond breaker shall be included in the cost of this item.

Method of Measurement. This work shall be measured for payment in square yards and have a maximum pay width of 1 foot.

Basis of Payment. This work shall be paid at the contract unit price per square yard for PORTLAND CEMENT CONCRETE BASE COURSE (VARIABLE DEPTH), which shall include all labor, equipment, and materials to complete the work as described in Section 353 of the SSRBC.

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED)

Description. This work shall consist of constructing modified combination concrete curb and gutter, type B-6.12 in accordance with Section 606 of the Standard Specifications for Road and Bridge Construction at locations shown on the plans or as directed by the Engineer.

General Construction Requirement. The Contractor shall utilize Standard 606001 to construct B-6.12 curb and gutter, however, the curb shall have a variable curb height ranging from 3" minimum to 9" maximum as shown in the plans.

The use of 9" curb height shall be limited and must be approved by the Engineer prior to installation. The use of 9" curb will not be allowed adjacent to parking stalls. Curb and Gutter installed adjacent to existing pavement to remain shall be placed on a minimum bedding of 4" compacted CA-7 stone, which shall be included in the cost of this item. Combination concrete curb and gutter installed adjacent to proposed PCC BASE COURSE (VARIABLE DEPTH) or existing PCC base course shall utilize No. 6 epoxy coated tie bars as shown in Standard 606001. Reinforcement bars will not be measured for payment but shall be included in the unit cost of the various proposed curb and gutter items.

Method of Measurement. This work shall be measured for payment in feet in the flow line of the gutter and along the face of the concrete curb.

Basis of Payment. This work shall be paid at the contract unit price in FEET for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (MODIFIED), which shall include all labor, equipment, and material to construct the proposed work in accordance with Section 606.

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (SPECIAL)

Description. This work shall consist of constructing combination concrete curb and gutter, type B-6.12 in accordance with Section 606 of the Standard Specifications for Road and Bridge Construction and the COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 MODIFIED Special Provision at locations shown on the plans or as directed by the Engineer with the following material modifications. The material used will be supplied by Ozinga, Model # 2940: Colored concrete with silicon carbide surface in a dark grey color. This curb shall be installed with sharp corners at a 90 degree angle.

Manufacturer / Supplier

- Concrete: Ozinga (www.ozinga.com – 800.874.4100)
- Silicon Carbide: Silicarb by Anti-Hydro (East Jordan, MI – 800.777.1773)
- Sparkle Grain: Pacific Palette Concrete Products (www.sparklegrain.com – 831.457.4566)
- Carborex WSC: Washington Mills (North Grafton, MA – 508.839.6511, EXT. 214, Mr. Craig Williams)

Construction Requirements.

The surface of curb shall have silicon carbide applied at the rate of 20 to 25 lbs./100 S.F., as follows, unless otherwise directed by the manufacturer. Immediately after substrate surface has been leveled and floated, before bleed water has appeared, the silicon carbide shall be applied evenly while there is sufficient moisture in the slab to saturate at least two dust-on coats.

Troweling must be started early enough to complete all operations without use of additional water on the surface. Distribute the silicon carbide crystals uniformly (at the rate of 20 – 25 lbs. per 100 sq.ft.) either by hand or mechanical spreader over prepared wet slab. Crystals shall be applied in three separate shake coats. Use one-third (1/3) of the required quantity of crystals for the first application. Apply second application slightly after first application is floated. Do not throw the crystals or broadcast them with a shovel. Use an evenly distributed hand broadcast.

Trowel crystals uniformly into surface after each shake coat. After the second shake coat of crystals have been troweled once, sprinkle the third coat over the surface. The surface must be uniformly coated. Use a steel trowel to leave grains at surface covered with a thin film of cement paste. The final finish may be lightly troweled to produce a smooth surface free from defects or blemishes. Finish troweling shall be delayed until surface has set sufficiently to avoid burying the crystals, but must be accomplished before finish has hardened.

Exposure of the silicon carbide crystals shall be accomplished with water and a soft broom, or sponge. Allow concrete surface to set sufficiently so that light scrubbing will not cause pitting. Ozinga mix (proprietary) dye to be added at a rate of 50 lbs per cubic yard (PSI @ 15 days 3,500). Silicon carbide crystals shall have a MOH scale of hardness or at least 9 and a grit size of either 16/30 or 16/36. Colored curbs shall be sealed with SILANE SURFACE SEALER (penetrating, non-film forming, non-wet look).

Method of Measurement. This work shall be measured for payment in feet in the flow line of the gutter and along the face of the concrete curb.

Basis of Payment. This work shall be paid at the contract unit price in FEET for COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (SPECIAL), which shall include all labor, equipment, and material to construct the proposed work in accordance with Section 606 of the SSRBC.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT

Description. This work shall consist of constructing 8 inch PCC driveway pavement in accordance with Section 423 of the Standard Specifications for Road and Bridge Construction at locations shown on the plans or as directed by the Engineer except as modified herein.

423.02 Materials. Add the following to the end of this Article:

“If directed to by the Engineer, PCC driveway pavement shall be constructed of high-early strength concrete (Class PP) at certain strategic locations determined by the Engineer to minimize construction duration and impacts to adjacent business driveways.”

PORTLAND CEMENT CONCRETE SIDEWALK

Description. This work shall consist of constructing a 5 inch or 8 inch PCC sidewalk in accordance with Section 424 of the Standard Specifications for Road and Bridge Construction at locations shown on the plans or as directed by the Engineer except as modified herein.

424.02 Materials. Add the following to the end of this Article:

“If directed to by the Engineer, PCC sidewalk shall be constructed of high-early strength concrete (Class PP) at certain strategic locations determined by the Engineer to minimize construction duration and impacts to adjacent business entrances and driveways.”

PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH, SPECIAL

Description. This work shall consist of constructing a 5 inch PCC sidewalk in accordance with Section 424 of the Standard Specifications for Road and Bridge Construction at locations shown on the plans or as directed by the Engineer.

Construction Requirements.

The contractor shall provide a mix design free from colors, dyes, and pigments that mimics the adjacent weathered PCC sidewalk throughout the project limits. Prior to placement, the Contractor shall provide a test panel with mix design to be approved by the Engineer.

Method of Measurement. This work shall be measured for payment in place and the area computed in square feet.

Basis of Payment. This work shall be paid at the contract unit price in square feet for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH, SPECIAL which shall include all labor, equipment, and material to construct the proposed work in accordance with Section 606 of the SSRBC.

PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH, SPECIAL

Description. This work shall consist of constructing Colored PCC Sidewalk with saw cuts to mimic the proposed bluestone pavers and decorative crosswalks as shown in the contract plans and as directed by the Engineer.

Materials. The proposed Colored PCC sidewalk shall be high-early strength Portland cement concrete pavement that meets or exceeds Illinois Department of Transportation specifications for class PP concrete.

The Contractor shall provide a suitable mix design to the Village of Oak Park and the Engineer for review and approval prior to placement. The following mix design has been successfully used by the Village of Oak Park.

Usage / Placement exterior concrete
Air Content 6.5% +/- 1.5%
Slump 3" +/- 1"
Design Strength 5,000 psi
Unit Weight 146.2 lbs / cu. ft.
Water / Cement Ratio 0.39

Table 1 for Blue Colored Concrete

Material Type	Description	Source	Standard
Coarse Aggregate	3/4" crushed limestone	-	ASTM C33 aggregate
Fine aggregate	Concrete Sand	-	ASTM C33 aggregate
Cement	Cementa	-	C150
Admixture	air entrainment	W.R. Grace-42147	ASTM C260
Admixture	Water Reducer TY-A(110)	W.R. Grace-43870	ASTM C494
Water	Water (lbs)	-	ASTM C1602 Water

Table 1 Notes:

1. Admixtures are added as needed.
2. W.R. Grace Mira 110: 21 ounces per cubic yard
3. W.R. Grace Liquid Fiber Mesh: 40 ounces per cubic yard
4. Increte Color: # 570 Philly Blue (at manufacturer's recommended dosage)

General Construction Requirements.

The colored concrete sidewalk shall be given a final finish by brushing with a whitewash brush. The brush shall be drawn across the sidewalk at right angles to the edges of the walk with adjacent strokes slightly overlapping thus producing a uniform, slightly roughened surface with parallel brush marks.

All joints between abutting concrete pours shall be "factory edge" joints or the finest, narrowest tooled joint that is possible.

Pigmented Admixtures for Portland Cement

Blue Concrete

In order to match previously placed blue colored concrete on Marion Street, the proposed colored concrete admixture shall be from Increte Systems of Odessa, Florida. No other brand or manufacturer will be allowed.

The specific Increte product shall be Increte Systems Color-Crete Integral Color 570 Philly Blue. The Philly Blue color admixture shall be used at the manufacturer's recommended dosage. The proposed integrally pigmented admixture shall be fully compatible with Illinois Department of Transportation Class PP, Portland cement concrete for pavement.

Concrete Surface Sealer

A Silane Surface Sealer (penetrating sealer) shall be applied to all new finished colored concrete pavements in accordance with the requirements of Section 587 of IDOT's Standard Specifications for Road and Bridge Construction (latest edition) and as amended in this special provision.

The penetrating sealer materials shall be applied at the maximum application rate and after the recommended curing time listed in the current Illinois Department of Transportation Bureau of Materials and Physical Research Approved List of Concrete Sealers. Concrete surface sealer shall be measured for payment as SILANE SURFACE SEALER.

Saw Cut Joints

Within 24 hours after the proposed Colored PCC Sidewalk has been poured, the Contractor shall sawcut joints to the mimic the adjacent bluestone paver pattern. The sawcut shall be 2" depth and the blade shall be pulled back near the end of the joint to avoid damaging adjacent pavement crosswalk pavement and joints. Saw cuts will not be measured for payment but shall be included in the cost of this item.

Method of Measurement. This work shall be measured for payment in place, and the area computed in square feet.

Basis of Payment. This work shall be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH, SPECIAL which shall include all labor, equipment, and materials to complete the work as outlined in the plans and special provisions.

RETAINING WALL, SPECIAL

Description. This work shall consist of removing and replacing existing minor (1'-2' height) PCC retaining walls located throughout the project limits that are failing in accordance with applicable portions of Section 501 and 503 of the Standard Specifications.

General Construction Requirements. The Engineer shall identify all existing retaining walls that are failing, either due to cracking or overturning, to be removed and replaced in kind. The Contractor shall remove and dispose of all identified PCC retaining walls and replace the retaining wall in kind with similar materials approved by the Engineer. Retaining walls that are solely damaged as a result of Contractor negligence will be replaced in kind at no additional cost to the Contract.

Method of Measurement. This work shall be measured for payment in place and the length computed in feet.

Basis of Payment. This work shall be paid for at the contract unit price per foot for RETAINING WALL, SPECIAL, which shall include all labor, equipment, and materials to complete the work as outlined in the plans and special provisions or as directed by the Engineer.

SILANE SURFACE SEALER

Description. This work shall consist of applying a silane surface sealer on decorative concrete curb and gutter, decorative concrete sidewalks, decorative concrete crosswalks, red clay brick pavers, bluestone pavers, and natural granite appurtenances.

Construction Requirements. The Contractor shall use a penetrating, water-based silane surface sealer designed by the manufacturer for each of the surfaces to which it will be applied. Sealer shall be clear and have no lasting effect on the appearance of the surface to which it is being applied. Contractor shall follow all of the manufacturer's instructions for the sealer application and shall apply sealer at the maximum application rate designated by the manufacturer. The Contractor shall submit sealer specifications to the Engineer for approval prior to placement. The Engineer may require the contractor to perform an application test on each of the material types to be treated. This test shall be at no additional cost to the contract.

Method of Measurement. This work shall be measured for payment in square yards placed.

Basis of Payment. This work shall be paid at the contract unit price per square yard for SILANE SURFACE SEALER, which shall include all labor, equipment, and materials to complete the work described herein.

DETECTABLE WARNINGS (SPECIAL)

Description. This work shall consist of furnishing and installing detectable warnings as indicated on the contract plans in accordance with Section 424 of the Standard Specifications and as revised or amended in this special provision.

Materials. Detectable warnings shall have vent holes and be grey cast iron or ductile iron according to Article 1006. Fasteners shall be stainless steel according to Article 1006.29(d).

Construction Requirements. Detectable warning tiles shall be mechanically connected to adjacent tiles with stainless steel bolts. Detectable warnings for radial ramps shall be installed using radial warning tiles. The contractor shall not use wedges to complete radial ramps, unless approved by the Engineer.

Method of Measurement and Basis of Payment. Detectable warnings will be measured for payment in place and the area computed in square feet. This work will be paid at the contract unit price per square foot for DETECTABLE WARNINGS (SPECIAL).

BLACK COLORED SIGN MOUNTING HARDWARE

Description. This work shall consist of furnishing and installing black colored mounting hardware that matches the proposed sign supports, light poles, and traffic signal equipment. Black colored sign mounting hardware for relocated and proposed signs located throughout the project shall be in accordance with Section 720 of the Standard Specifications.

Basis of Payment. This item will not be measured for payment but shall be included in the cost of the relocated and proposed sign items.

RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (COMPLETE)

Description. This work shall consist of furnishing and installing the Rectangular Rapid Flashing Beacon (RRFB) Assembly complete with dual sided RRFB; power supply; controller and cabinet, wireless communication equipment, conduits, cables, and pedestrian push-buttons and signing as shown on the plans and/or as specified by the Engineer. All equipment and hardware required to mount the dual sided RRFB and associated equipment to the assembly shall be included in the unit cost of this item.

Materials. All components shall be manufactured and assembled as a complete system, all mounting hardware and components shall be black-colored, and consist of the following:

Rectangular Rapid Flashing Beacon: Each RRFB assembly shall satisfy the FHWA Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11), dated July 16, 2008, and all subsequent FHWA Official Interpretation Letters and the 2009 edition of the Manual of Uniform Traffic Control Devices (MUTCD), including the unit size, mounting location, flash rate, and operational parameters unless modified herein by this special provision. The RRFB assembly shall be programmable to allow the Village Engineer to set the duration of the flashing beacon display based on the crossing time requirements established in the MUTCD. The Contractor shall furnish and install two direction RRFB units with far side indicator light mounted to the sign structure as indicated on the plans. The RRFB shall be rated for Class I light intensity output according to the Society of Automotive Engineers (SAE) Standard J595 with a 15 year life expectancy. The minimum size of the LED beacon shall be 7 inches x 3 inches. The RRFB shall be able to be seen at least 1,000 feet in advance of the crossing during the day. During the night time hours, the RRFB shall be equipped with an automatic dimming feature. The RRFB shall have an operating temperature meeting NEMA specifications.

Power Supply: The installation shall be solar powered power supply.

- A. **Solar Power Supply:** If used, the solar power supply shall be easy to install, fully self-contained weather, corrosion, and vandal-resistant, with a UV-resistant solar panel. The solar power supply shall be power autonomous without need of an external power supply. The batteries shall be sealed, maintenance free, and field replaceable independently of other components. The battery pack shall have a minimum rated lifespan of three years. The power supply system shall have the capacity to operate the RRFB for 30 days at a normal use of 400 activations of 30 seconds per day without solar charging. The RRFB shall have an automatic light control to provide useful light during extreme conditions that prevent charging over an extended period of time. The manufacturer shall provide documentation for each installation consisting of solar power calculations to verify load, duty cycle and battery capacity based on location. The solar panel shall be installed at the highest point on the assembly structure, or as directed by the Engineer, and away from the travelled way. The solar panel shall be installed at an angle specified by the manufacturer facing the equator (due south) with a full unobstructed solar exposure for optimum performance of the system, or as recommended by the manufacturer and directed by the Engineer. If batteries are to be installed in a separate cabinet, the cabinet shall be a minimum of seven feet above the ground and located on the post as to be not over the sidewalk, bike path or trail.

Controller: The RRFB controller shall meet the requirements of Section 858 of the “Standard Specifications” except where modified herein:

- A. Power Options: The controller unit shall be available in both solar- powered and AC powered options.
- B. Controller to Controller Communication: At each location all installed RRFB assemblies shall communicate wirelessly using an unlicensed radio band so as to simultaneously commence operation of their alternating rapid flashing indications and cease operation simultaneously. The communication equipment shall comply with FCC requirements and the vendor representative shall field test the equipment prior to placing the units in operation to demonstrate the RRFBs ability to achieve proper operation under the requirements of FHWA Memorandum IA-21 and all subsequent interpretation letters. Up to 10 optional RF channels shall be available to allow multiple RRFB Systems to operate within close proximity of each other.
- C. Timing: The controller shall provide the full programmed timing upon all push button activations.

Activated Pedestrian Push-Button:

Description.

Revise Article 888.01 of the Standard Specifications to read:

This work shall consist of furnishing and installing a latching (single call) or non-latching (dual call) pedestrian push-button and a regulatory pedestrian instruction sign according to MUTCD sign R10-25, (9” x 12”) -“Push Button To Turn On Warning Lights”. R-series signs shall be manufactured with type AP sheeting meeting the requirements of Section 1091 of the “Standard Specifications” and shall be vandal resistant. All signs shall meet the latest requirements of the MUTCD.

Installation.

Add the following to Article 888.03 of the Standard Specifications:

A mounting bracket and/or extension shall be used to assure proper orientation when two pedestrian push buttons are required for one post. The price of the bracket and/or extension shall be included in the cost of the pedestrian push button. The contractor is not allowed to install a push-button assembly with the sign below the push-button in order to meet mounting requirements.

Materials.

Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074.02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign R10-25, 9"x12"

Add the following to Article 1074.02 of the Standard Specifications:

- (f) Location. Pedestrian push-buttons and stations shall be mounted to a post, mast arm pole or wood pole as shown on the plans and shall be fully ADA accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details. This work shall be in accordance with the special

Beacon Flashing Requirements: As a specific exception to the requirements for the flash rate of beacons provided in Paragraph 3 of Section 4L.01, RRFBs shall use a much faster flash rate and shall provide 75 flashing sequences per minute. During each 800-millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

- A. The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- B. The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- C. The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- D. The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- E. Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
- F. Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 250 milliseconds.

The flash rate of each individual RRFB indication, as applied over the full flashing sequence, shall not be between 5 and 30 flashes per second to avoid frequencies that might cause seizures. The RRFB shall be rated for Class I light intensity output according to the Society of Automotive Engineers (SAE) Standard J595 with a 15 year life expectancy. During the night time hours, the RRFB shall be equipped with an automatic dimming feature.

Signs: Each RRFB assembly shall include two crossing signs (W11-2) 30 inch x 30 inch dimension, two diagonal downward pointing arrow (W16-7P) plaques 24 inch x 12 inch dimension, mounted back-to-back. The W-series sign panels shall be manufactured with fluorescent yellow green type ZZ sheeting meeting the requirements of Section 1091 of the "Standard Specifications" and will be paid for separately as SIGN PANEL - TYPE 1.

Warranty. All materials shall be warranted for three years from date of acceptance or turn on by the Village of Oak Park.

Installation. The RRFB Assembly (Complete) shall be installed strictly according to the manufacturer's recommendations, the applicable portions of the "Standard Specifications" as modified herein, as shown on the Plans, and/or as directed by the Engineer. The final elevation and location of the beacons shall be approved by the Engineer prior to the Contractor beginning work.

Basis of Payment. This work will be paid at the contract unit price for each RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (COMPLETE). The unit price shall include all labor, equipment, materials and documentation required to furnish and install the dual sided RRFB assembly complete including; power supply, controller and cabinet, wireless communication equipment, conduits, cables, and pedestrian push-buttons and signing, as shown on the plans and/or as specified by the Engineer.

BASE FOR TELESCOPING SIGN SUPPORT, SPECIAL

Description. This work shall consist of furnishing and installing bases for telescoping steel sign supports for ground mounted signs in accordance with Section 731 of the Standard Specifications, IDOT Highway Standard 731001, and as revised or amended in this special provision.

Materials. Materials shall be according to Section 1093.02 except that the base shall have black powder coating to match the telescoping steel sign supports. The powder coating shall meet Article 1006.29(b)(5). The paint finish and shipping procedures shall be submitted with catalog cuts at the time of contract award.

Method of Measurement. This work will be measured for payment in units of each.

Basis of Payment. This work will be paid at the contract unit price per each for BASE FOR TELESCOPING SIGN SUPPORT, SPECIAL.

TELESCOPING STEEL SIGN SUPPORT (SPECIAL)

Description. This work shall consist of furnishing and installing telescoping steel sign supports for ground mounted signs utilizing a telescoping base section in accordance with Section 728 of the Standard Specifications and as revised or amended in this special provision.

Materials. Materials shall be according to Section 1093.01 (c) except that the post shall be 1 ¾ x 1 ¾ inch, 14 gauge steel, with black powder coating, and the base section shall be 2 x 2 inch, 12 gauge steel, with a smooth galvanized finish applied either before or after forming. The powder coating shall meet Article 1006.29(b)(5).

Construction Requirements. The sign locations shall be staked by the Engineer prior to the installation of the posts. The Contractor shall be responsible for the proper elevation, offset, and orientation of all signs as indicated in the plans or as directed by the Engineer. When proposed telescoping steel sign supports are located within bluestone pavers areas, the pavers shall be core drilled to allow for installation, unless otherwise directed by the Engineer.

Base sections shall be 2 x 2 inches and driven by hand or mechanical means to a minimum depth of 36 inches measured from the ground line. The 1 ¾ x 1 ¾ inch top section shall be telescoped into the base section a minimum of 8 inches and a maximum of 12 inches and the two sections fastened together as shown in the plans.

Method of Measurement. This work will be measured for payment in feet. The length measured will be the total length of all sections installed, except for any internal splice members and any telescoping of a top section more than 12 inches into a base section.

Basis of Payment. This work will be paid at the contract unit price per foot for TELESCOPING STEEL SIGN SUPPORT (SPECIAL).

RELOCATE SIGN, SPECIAL

Description. This work shall consist of the removal and relocation of existing electrified "Garage Parking" signs as shown in the plans or as directed by the Engineer.

This work shall be in accordance with Section 724 and 801 in the Standard Specifications. The Contractor shall coordinate with the Engineer to determine the final locations of all electrified relocated "Garage Parking" signs.

Basis of Payment. This work shall be paid for at the contract unit price per each for RELOCATE SIGN, SPECIAL. This work shall include any necessary splicing, electrical material, and mounting hardware including labor, equipment, and materials to complete the work described herein.

REMOVE SIGN (SPECIAL)

Description. This work shall consist of the removal and disposal or salvage of existing decorative Oak Park information and wayfinding signs, including foundations, as shown in the plans or as directed by the Engineer.

This work shall be in accordance with Section 724 and 737 in the Standard Specifications. The Contractor shall coordinate with the Engineer to determine which signs shall be salvaged and delivered to the Public Works Department. Salvaged signs shall be carefully removed without damaging any sign elements. Remaining signs shall be properly disposed of off-site.

Backfill shall be performed in accordance with the applicable portions of Section 208 of the Standard Specifications but will not be measured for payment.

Basis of Payment. This work shall be paid for at the contract unit price per each for REMOVE SIGN (SPECIAL). This work shall include any necessary labor, equipment, and materials to complete the work described herein.

CONCRETE FOUNDATIONS (SPECIAL)

Description. This work shall consist of the construction of small concrete foundations for ground-mounted sign supports intended to support future wayfinding signs by others.

This work shall be in accordance with Section 734 in the Standard Specifications. The Contractor shall coordinate with the Engineer to determine the dimensions and locations of the foundations as well as any sign bases to be cast into the foundations. Shop drawings shall be submitted to the Engineer for approval prior to installation.

Basis of Payment. This work shall be paid for at the contract unit price per each for CONCRETE FOUNDATIONS (SPECIAL). The price shall include any necessary excavation, backfill, disposal of materials, including labor, equipment, and materials to complete the work described herein.

DEWATERING

Description. This work consists of providing labor, tools, equipment, and materials necessary to dewater the related work areas of the Project to relatively dry conditions and maintain suitable working conditions so that the improvements may be constructed in the dry as shown in the plans and as directed by the Engineer.

Materials. Contractor shall be responsible for the choice of the product(s) and equipment as well as "means and methods" for the Site Dewatering Work to be performed subject to the review of the Engineer. All products and "means and methods" selected shall be adequate for the intended use/application. Engineer's review does not relieve the Contractor from compliance with the requirements of the Drawings and Specifications and the requirements of this special provision.

Submittals. Contractor shall submit to the Engineer for review a description of dewatering techniques and equipment to be used, together with detail drawings showing lengths of discharge piping and point(s) of discharge including erosion control procedures.

The Engineer's review of dewatering techniques and equipment shall in no way be construed as creating any obligation on the part of Engineer for same.

Responsibility. The Contractor shall be solely responsible for the choice of product(s) and equipment; for the design, installation, and operation; as well as "means and methods" of performing the Work; and subsequent removal of dewatering systems and their safety and conformity with local codes, regulations and these Specifications. All product(s), equipment and "means and methods" selected shall be adequate for the intended use/application. Review by Engineer does not relieve Contractor from compliance with the requirements specified herein.

General Requirements. The Contractor shall select the pumps he/she desires to use and the rate at which the pumps discharge. Adequate protection at the pump discharge shall be provided by the Contractor, subject to review by the Engineer. The Contractor shall ensure that downstream water quality shall not be impaired.

At **all** times during the excavation period and until completion and acceptance of the Work at Final Inspection, ample means and equipment shall be provided with which to remove promptly and dispose of properly all water entering any excavation or any other parts of the Work.

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 or streets or to other work under construction. Water shall not be discharged onto streets without adequate protection of the surface at the point of discharge. No water shall be discharged into sanitary sewers. No water containing settleable solids shall be discharged into storm sewers. Any and all damages caused by dewatering the work shall be promptly repaired by the Contractor. The Contractor is responsible for providing any and all labor, materials and equipment needed for the Dewatering in order to meet the scheduled completion of the project.

Method of Measurement. This work will be measured for payment on a lump sum basis.

Basis of Payment. This work will be paid for at the contract lump sum price for DEWATERING, which price shall include all material, equipment, labor, and disposal of material necessary to complete the work as specified herein.

DUST CONTROL WATERING

Description. This work shall consist of furnishing and applying water to control dust and air-borne dirt generated by construction activities.

General. This work shall be performed according to Article 107.36 of the "Standard Specifications" and the following:

Revise Article 107.36 of the "Standard Specifications" as follows:

Replace sub-paragraph (d) of under the third paragraph with the following:

(d) Dust shall be controlled by the uniform application of sprinkled water and shall be applied only when directed and in a manner approved by the Engineer. All equipment used for this work shall meet with the Engineer's approval and shall be equipped with adequate measuring devices for determining the exact amount of water discharged. All water used shall be properly documented by ticket or other approved means.

The Contractor is reminded of the provisions of Article 107.18 of the "Special Provisions" regarding the procurement of water from fire hydrants.

Method of Measurement. This work will be measured in units of gallons of water applied. One unit is equivalent to 1,000 gallons of water applied.

Basis of Payment. This work will be paid for at the contract unit price per unit for DUST CONTROL WATERING. The unit price shall include all equipment, materials and labor required to control dust.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for WASHOUT BASIN, which shall include general maintenance and removal of all construction debris and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work.

SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE

Description. This work shall consist of constructing a stabilized construction entrance, including furnishing, installing, maintaining and removing a stabilized pad of aggregate underlain with filter fabric, as shown on the plans or directed by the Engineer.

Materials. The materials used shall meet the requirements of the following:

Aggregate: The aggregate shall be limited to IDOT Coarse Aggregate Gradation CA-1.

Filter Fabric: The filter fabric shall be made of synthetic polymers composed of at least 85 percent by weight polypropylene, polyesters, polyamides, polyethylene, polyolefins, or polyvinylidene-chlorides. The geotextile shall be free of any chemical treatment or coating that significantly reduces its porosity. Fibers shall contain stabilizers and/or inhibitors to enhance resistance to ultraviolet lights.

Construction Requirements. The aggregate shall be at least six inches thick. The aggregate shall not be placed until the entrance area has been inspected and approved by the Engineer.

The aggregate shall be dumped and spread into place in approximately horizontal layers. The layer(s) shall not exceed three feet in thickness. The aggregate shall be placed in such a manner as to produce a reasonably homogeneous stable fill that contains no segregated pockets of larger or smaller fragments or large unfilled space caused by bridging of larger fragments. No compaction shall be required beyond that resulting from the placing and spreading operations.

The construction entrance shall follow the dimensions shown on the plans and/or have a minimum width of 14 feet and a minimum length of 50 feet.

All surface water flowing or diverted toward the construction entrance shall be piped across the entrance. Any pipe used for this will be considered included in the unit price for SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE. The stabilized construction entrance shall have positive drainage away from the roadway.

The entrance shall remain in place and be maintained until the disturbed area is stabilized. Any sediment spilled onto public right-of-way(s) shall be removed immediately. All removed materials shall be disposed of outside the limits of the right-of-way according to Article 202.03 of the "Standard Specifications" and/or as directed by the Engineer.

Method of Measurement. The Stabilized Construction Entrance will be measured in place and the area computed in square yards.

Basis of Payment. The work will be paid for at the contract unit price per square yard for SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE. The unit price shall include all material, including filter fabric, labor, equipment and any other items required to complete the construction entrance.

SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE MAINTENANCE

Description. This work shall consist of maintaining stabilized construction entrances that have become ineffective as a result of standard operations and natural forces. This work will include the removal of proper disposal of excess materials and the delivery and placing of aggregate in the manner described in SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE.

This pay item shall not be paid for each time maintenance is required but shall consist of maintenance over the life of the project for which the entrance is needed.

Basis of Payment. This work shall be measured for payment to the outside dimensions of the material being removed and the area calculated in SQUARE YARDS. All excavation and grading necessary to remove and replace the sediment fill aggregate shall not be paid for separately but included in the cost of SEDIMENT CONTROL, STABILIZED ENTRANCE MAINTENANCE.

SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE REMOVAL

Description. This work shall consist of the removal of a stabilized construction entrance and all items necessary for removal of the stabilized construction entrance. This includes (but not limited to) excess aggregate for mountable berms, aggregate radii abutting temporary, permanent, or existing pavement; cellular confinement grids; all unnecessary aggregate within 20 feet within the original lines and dimensions in which the original entrance was constructed. All methods of removal shall be approved by the engineer. Material shall be disposed of according to Article 202.03 or as directed by the Engineer.

Basis of Payment. This work shall be measured and paid for at the contract unit price per EACH for SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE REMOVAL and shall include all labor, excavation, and disposal of material used for the stabilized construction entrance.

WASHOUT BASIN

Description. The contractor shall take sufficient precautions to prevent pollution of streams, wetlands, and natural areas of fuels, oil, bitumens, calcium chloride, or other harmful materials according to Article 107.23 of the Standard Specifications. This item shall consist of constructing and maintaining a washout basin for concrete trucks and other construction vehicles.

General. To prevent pollution by residual concrete and/or the byproduct of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained on any project which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this special provision and as detailed on the plans. Concrete washout facilities shall be required on all projects regardless of the need by NPDES permitting. On projects requiring NPDES permitting, concrete washout facilities shall also be addressed in the Storm Water Pollution Prevention Plan.

The Contractor may elect to use a pre-fabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility to the Engineer for approval a minimum of 10 calendar days before the first concrete pour. The working concrete washout facility shall be constructed before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas such as water bodies, wetlands, and/or other areas indicated on the plans. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity.

Once the 75% capacity is reached, concrete placement shall be discontinued until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the right of way. Slurry shall be allowed to evaporate or shall be removed and properly disposed of outside the right of way. The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. Any and all spills shall be reported to the Engineer and cleaned immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for WASHOUT BASIN, which shall include general maintenance and removal of all construction debris and all material, labor, tools, equipment, disposal of surplus material, and incidentals necessary to complete this item of work.

TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996
Revised: January 2, 2007

Description.

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:

	<u>Item</u>	<u>Article/Section</u>
a.)	Sign Base (Notes 1 & 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 (16 mm) instead of 3/4 inch (19 mm) 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 (2 mm) thick.

GENERAL CONSTRUCTION REQUIREMENTS

Installation.

The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

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 (2.1 m) above the near edge of the pavement and shall be a minimum of 2 ft (600 mm) beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.

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.

Signs which are placed on overhead bridge structures shall be fastened to the handrail with stainless steel bands. These signs shall rest on the concrete parapet where possible. The Contractor shall furnish mounting details for approval by the Engineer.

Method of Measurement. This work shall be measured for payment in square feet (square meters) edge to edge (horizontally and vertically).

All hardware, posts or skids, supports, bases for ground mounted signs, connections, which are required for mounting these signs will be included as part of this pay item.

Basis of Payment. This work shall be paid for at the contract unit price per square foot (square meter) for TEMPORARY INFORMATION SIGNING.

KEEPING ARTERIAL ROADWAYS OPEN TO TRAFFIC (LANE CLOSURES ONLY)

Effective: January 22, 2003

Revised: August 10, 2017

The Contractor shall provide the necessary traffic control devices to warn the public and to delineate the work zone as required in these Special Provisions, the Standard Specifications, the State Standards, and the District Details.

Arterial lane closures shall be in accordance with the Standard Specifications, Highway Standards, District Details, and the direction of the Engineer. The Contractor shall request and gain approval from the Engineer seventy-two (72) hours in advance of all long-term (24 hrs. or longer) lane closures.

Arterial lane closures not shown in the staging plans will not be permitted during **peak traffic volume hours**.

Peak traffic volume hours are defined as weekdays (Monday through Friday) from **6:00 AM to 9:00 AM and 3:00 PM to 6:00 PM**.

Private vehicles shall not be parked in the work zone. Contractor's equipment and/or vehicles shall not be parked on the shoulders or in the median during non-working hours. The parking of equipment and/or vehicles on State right-of-way will only be permitted at locations approved by the Engineer in accordance with Articles 701.08 and 701.11 of the Standard Specifications.

Should the Contractor fail to completely open and keep open all the traffic lanes to traffic in accordance with the limitations specified above, the Contractor shall be liable to the Department for the amount of:

One lane or ramp blocked = \$1000

Two lanes blocked = \$2500

Not as a penalty but as liquidated and ascertained damages for each and every 15 minute interval or a portion thereof that a lane is blocked outside the allowable time limitations. Such damages may be deducted by the Department from any monies due the Contractor. These damages shall apply during the contract time and during any extensions of the contract time.

MAST ARM SIGN PANELS

Effective: May 22, 2002

Revised: July 1, 2015

720.01TS

Add the following to Article 720.02 of the Standard Specifications:

Sign stiffening channel systems shall be aluminum and meet the requirements of ASTM 6261-T5. Sign mounting banding, buckles and buckle straps shall be manufactured from AISI 201 stainless steel.

TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: May 22, 2002

Revised: March 25, 2016

800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current IMSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of Village of Oak Park approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted to the Village of Oak Park unless directed otherwise by the Engineer. Material submittals shall follow the Village's Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials shall be submitted.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from Village of Oak Park. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall be complete with all test data, dates, and times.
10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Village's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.

11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify contract compliance at no additional cost to the contract.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.
14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

Marking Proposed Locations.

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

Inspection of Electrical Systems.

Add the following to Article 801.10 of the Standard Specifications:

- (c) All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in IDOT District One. The Village of Oak Park reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer and Village of Oak Park with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify the Village of Oak Park Traffic Signal Maintenance of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Village will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Village from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Village. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Village, the Village's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Village reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Village may inspect any signaling device on the Village's highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.
- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current IDOT District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Village's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Village of Oak Park Traffic Signal Maintenance a minimum of seven (7) working days prior to the time of the requested inspection. The Village will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Village from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Village. The Village will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The Village requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Village as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.
3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.

8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Village shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Village acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Village.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Village Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible.”

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

“In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

Date	Item	Description	Latitude	Longitude
01/01/2015	MP (Mast Arm Pole)	NEQ, NB, Dual, Combination Pole	41.580493	-87.793378
01/01/2015	HH (Handhole)	Heavy Duty, Fiber, Intersection, Double	41.558532	-87.792571
01/01/2015	ES (Electrical Service)	Ground mount, Pole mount	41.765532	-87.543571
01/01/2015	CC (Controller Cabinet)		41.602248	-87.794053
01/01/2015	RSC (Rigid Steel Crossing)	IL 31 east side crossing south leg to center HH at Klausen	41.611111	-87.790222
01/01/2015	PTZ (PTZ)	NEQ extension pole	41.593434	-87.769876
01/01/2015	POST (Post)		41.651848	-87.762053
01/01/2015	MCC (Master Controller Cabinet)		41.584593	-87.793378
01/01/2015	COMC (Communication Cabinet)		41.584600	-87.793432
01/01/2015	BBS (Battery Backup System)		41.558532	-87.792571
01/01/2015	CNCR (Conduit Crossing)	4-inch IL 31 n/o of Klausen	41.588888	-87.794440

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

Delete the last sentence of the 3rd paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

Village of Oak Park traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing Village of Oak Park electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing Village of Oak Park electrical facilities from the Village Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

800.03TS

Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

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

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Village, if available and as appropriate. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
 - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.
 - b. Proposed signal timing plan for the modified intersection(s) shall be forwarded to Village of Oak Park for review prior to implementation.

- c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations. The consultant shall respond to Village of Oak Park comments and public complaints for a minimum period of 60 days from date of timing plan implementation.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
 - a. Consultant shall furnish to Village of Oak Park a cover letter describing the extent of the re-optimization work performed.
 - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to Village of Oak Park and to Village's Traffic Signal Maintenance Contractor.
- (b) LEVEL II Re-Optimization
1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
 - a. Traffic counts shall be taken at the subject intersection(s) after the traffic signals are approved for operation by the Village Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday and/or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
 - b. As necessary, the intersection(s) shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of Village of Oak Park.
 - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to Village of Oak Park.
 2. The following deliverables shall be provided for LEVEL II Re-Optimization.
 - a. Consultant shall furnish to Village of Oak Park one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - (1) Brief description of the project
 - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
 - (3) Printed copies of the traffic counts conducted at the subject intersection
 - b. Consultant shall furnish to Village of Oak Park two (2) CDs for the optimized system. The CDs shall include the following elements:
 - (1) Electronic copy of the technical memorandum in PDF format
 - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
 - (3) Traffic counts conducted at the subject intersection(s)

- (4) New or updated intersection(s) graphic display file for the subject intersection(s)
- (5) The CD shall be labeled with the submittal date and the consultant logo. The CD case shall include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

SERVICE INSTALLATION (TRAFFIC SIGNALS)

Effective: May 22, 2002

Revised: June 15, 2016

805.01TS

Revise Section 805 of the Standard Specifications to read:

Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the “District One Standard Traffic Signal Design Details”.

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company to the Village Engineer and Village Traffic Signal Maintenance Engineer. The service agreement and sketch shall be submitted for signature to the Village Engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

- b. Enclosures.
1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the vendor.
 2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch (1.91 mm) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.
 3. All enclosures shall include a green external power indicator LED light with circuitry as shown in the Electrical Service-Panel Diagram detail sheet. For pole mounted service enclosures, the power indicator light shall be mounted as shown in the detail. For ground mounted enclosures, the power indicator light shall be mounted on the side of the enclosure most visible from the major roadway.
- c. Electric Utility Meter Housing and Riser. The electric meter housing and meter socket shall be supplied and installed by the contractor. The contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter housing shall be mounted to the enclosure. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.

- d. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math><5n</math> seconds and operate within a range of - e. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
- f. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
- g. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
- h. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.
- i. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet (3.0m) in length, and 3/4 inch (20mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch (20mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

UNDERGROUND RACEWAYS

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches (700 mm) below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 300 mm (12”) or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125") thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring."

ROD AND CLEAN EXISTING CONDUIT

Effective: January 1, 2015

Revised: July 1, 2015

810.03TS

Description.

This work shall consist of inserting a duct rod or electrical fish rod or tape of sufficient length and rigidity into an electrical conduit opening in one electrical handhole, and pushing the said rod through the conduit to emerge at the next or subsequent handhole in the conduit system at the location(s) shown on the plans. The duct rod may be inserted and removed by any standard construction method which causes no damage to the conduit. The size of the conduit may vary, but there shall be no differentiation in cost for the size of the conduit.

The conduit which is to be rodded and cleaned may exist with various amounts of standing water in the handholes to drain the conduit and to afford compatible working conditions for the installation of the duct rods and/or cables. Pumping of handholes shall be included with the work of rodding and cleaning of the conduit.

Any handhole which, in the opinion of the Engineer contains excessive debris, dirt or other materials to the extent that conduit rodding and cleaning is not feasible, shall be cleaned at the Engineer's order and payment approval as a separate pay item.

Prior to removal of the duct rod, a duct cleaning attachment such as a properly sized wire brush or cleaning mandrel shall be attached to the duct rod, which by removal of the duct rod shall be pulled through the conduit to remove sand, grit, or other light obstructions from the duct to provide a clean, clear passage for the installation of cable. Whenever the installation of cables is not performed as an adjunct to or immediately following the cleaning of the duct, a light weight pulling line such as a 1/8" polyethylene line or conduit measuring tape shall be placed and shall remain in the conduit to facilitate future work. When great difficulty of either inserting the duct rod or removal of the cleaning mandrel is encountered, the duct may require further cleaning by use of a compressed air gun, or a low pressure water hose. In the case of a broken conduit, the conduit must be excavated and repaired. The existence and location of breaks in the conduit may be determined by rodding, but the excavation and repair work required will be paid for separately.

This work shall be measured per lineal foot for each conduit cleaned. Measurements shall be made from point to point horizontally. No vertical rises shall count in the measurement.

Basis of Payment.

This work shall be paid for at the contract unit price per lineal foot for ROD AND CLEAN EXISTING CONDUIT for the installation of new electric cables in existing conduits. Such price shall include the furnishing of all necessary tools, equipment, and materials required to prepare a conduit for the installation of cable.

INTERCEPT EXISTING CONDUIT

Description. This item will consist of intercepting an existing conduit or conduits and making a connection to a new conduit.

Construction. Work under this item will be performed in accordance with Article 800 of the Standard Specifications.

The contractor shall disconnect the cable going through the conduit and pull it into the nearest handhole. The contractor must locate existing conduit and splice new conduit to the existing conduit. The contractor shall then reconnect all the cable.

Method of Measurement. This work will be measured on a per each basis for each conduit end cut and connected.

Basis of Payment. This work will be paid for at the contract unit price per each for INTERCEPT EXISTING CONDUIT, which price will include all necessary excavation, backfilling, and restoration of a parkway. No additional compensation will be made for removal or placement of concrete. This item will include all work necessary to bring the conduit into the manhole, handhole, or foundation, or to make the necessary connection to a new conduit. The contractor will furnish all materials for a complete installation

HANDHOLES

Effective: January 01, 2002

Revised: July 1, 2015

814.01TS

Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

“Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units.”

Add the following to Article 814.03 of the Standard Specifications:

“(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2 inch (13 mm) thickness shall be placed between the handhole and the sidewalk.”

Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (305mm).

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16 inch (11 mm) diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy duty hand holes shall be 6 inches (152 mm).

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

“1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

FIBER OPTIC TRACER CABLE

Effective: May 22, 2002

Revised: July 1, 2015

817.02TS

The cable shall meet the requirements of Section 817 of the Standard Specifications, except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600V, minimum length 4 inches (100 mm) and with a minimum 1 inch (25 mm) coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.

3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Village for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Village or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the Village's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the Village's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The Village's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

TRAFFIC SIGNAL PAINTING

Description.

This work shall include surface preparation, powder coated finish application and packaging of new galvanized steel traffic signal mast arm poles and posts assemblies. All work associated with applying the painted finish shall be performed at the vendor's facility for the pole assembly or post or at a painting facility approved by the Engineer. Traffic signal mast arm shrouds and post bases shall also be painted the same color as the pole assemblies and posts.

Surface Preparation.

All weld flux and other contaminates shall be mechanically removed. The traffic mast arms and post assemblies shall be degreased, cleaned, and air dried to assure all moisture is removed.

Painted Finish.

All galvanized exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a dry film thickness of 2.0 mils. Prior to application, the surface shall be mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450 °F for a minimum one (1) hour. The coating shall be electrostatically applied and cured by elevating the zinc-coated substrate temperature to a minimum of 400 °F.

The finish paint color shall be a semi-gloss black matching the color and finish of ORNAMENTAL LIGHT UNIT, COMPELTE item. The Contractor shall confirm, in writing, the color selection with the Engineer for approval and a copy of the approval shall be included in the material catalog submittal.

Painting of traffic signal heads, pedestrian signal heads and controller cabinets is not included in this pay item.

Any damage to the finish after leaving the vendor's facility shall be repaired to the satisfaction of the Engineer using a method recommended by the vendor and approved by the Engineer. If while at the vendor's facility the finish is damaged, the finish shall be re-applied at no cost to the contract.

Warranty.

The Contractor shall furnish in writing to the Engineer, the paint vendor's standard warranty and certification that the paint system has been properly applied.

Packaging.

Prior to shipping, the poles and posts shall be wrapped in ultraviolet-inhibiting plastic foam or rubberized foam.

Basis of Payment.

This work shall be paid for at the contract unit price each for PAINT NEW MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, PAINT NEW COMBINATION MAST ARM AND POLE, UNDER 40 FEET (12.19 METER), PAINT NEW COMBINATION MAST ARM AND POLE, 40 FEET (12.19 METER) AND OVER, or PAINT NEW TRAFFIC SIGNAL POST of the length specified, which shall be payment in full for painting and packaging the traffic signal mast arm poles and posts described above including all shrouds, bases and appurtenances.

FULL-ACTUATED CONTROLLER (SPECIAL)

Effective: September 26, 1995

Revised: July 1, 2018

857.01TS

Description.

This work shall consist of furnishing and installing a(n) "ECONOLITE" brand traffic actuated solid state digital controller meeting the requirements of the current District One Traffic Signal Special Provisions 857.02TS Full Actuated Controller and Cabinet, and 857.02TS Railroad, Full Actuated Controller and Cabinet. This pay item shall include furnishing and installing the controller complete including malfunction management unit, load switches and flasher relays, and all necessary connections for proper operation.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NTCIP compliant, Econolite Cobalt unless specified otherwise on the plans or elsewhere on these specifications. A NTCIP compliant controller may be used at a traffic signal interconnected to railroad warning devices but only upon the approval of the Engineer. Only controllers supplied by one of the District One approved closed loop equipment supplier will be allowed. The controller shall be the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON and include data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being omitted during program changes and after all preemption events.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER IN EXISTING CABINET.

FULL-ACTUATED CONTROLLER AND CABINET

Effective: January 1, 2002

Revised: July 1, 2018

857.02TS

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, as modified herein, including malfunction management unit, load switches and flasher relays, with all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing a(n) "ECONOLITE" brand traffic actuated solid state controller.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt or Eagle/Siemens M52 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment suppliers will be allowed. Unless specified otherwise on the plans or these specifications, the controller shall be of the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON. A removable controller data key shall also be provided. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrac, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing close loop management communications.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise "conflict monitor" to read "Malfunction Management Unit"
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Shall be a 120VAC Single phase Modular filter Plug-in type, supplied from an approved vendor.
- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, electric heater.
- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches (610mm) wide.

- (b) (14) Plan & Wiring Diagrams – 12" x 15" (305mm x 406mm) moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET

UNINTERRUPTABLE POWER SUPPLY, SPECIAL

Effective: January 1, 2013

Revised: May 19, 2016

862.01TS

This work shall be in accordance with section 862 of the Standard Specification except as modified herein

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of 6 (six) hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTABLE POWER SUPPLY, SPECIAL.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet, where applicable. For Super-P (Type IV) and Super-R (Type V) cabinets, the battery cabinet is integrated to the traffic signal cabinet, and shall be included in the cost for the traffic signal cabinet of the size and type indicated on the plans.

The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and an Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract. A concrete apron shall be provided and be in accordance with Articles 424 and 202 of the Standard Specifications. The concrete apron shall also, follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS including the addition of alarms.

Materials.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection's normal operating load plus 20 percent (20%) of the intersection's normal operating load. When installed at a railroad-interconnected intersection the UPS must maintain the railroad pre-emption load, plus 20 percent (20%) of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS.

The UPS shall provide a minimum of 6 (six) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, luminaires, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

End of paragraph 1074.04(b)(2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include standard RS-232 and internal Ethernet interface.

- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate. Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.
- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of 6 (six) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.
- (10) Battery Heater mats shall be provided, when gel cell type batteries are supplied.

Add the following to the Article 1074.04 of the Standard Specifications:

- (e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of 5 years from date the equipment is placed in operation.
- (f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider.
- (g) The UPS shall be set-up to run the traffic signal continuously, without going to a red flashing condition, when switched to battery power unless otherwise directed by the Engineer. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

FIBER OPTIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

871.01TS

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 871.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be 24 Port Fiber Wall Enclosure, unless otherwise indicated on plans. The fiber optic cable shall provide twelve fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped.. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

Testing shall be in accordance with Article 801.13(d). Electronic files of OTDR signature traces shall be provided in the Final project documentation with certification from the Contractor that attenuation of each fiber does not exceed 3.5 dB/km nominal at 850nm for multimode fiber and 0.4 bd/km nominal at 1300nm for single mode fiber.

ELECTRIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

Delete “or stranded, and No. 12 or” from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

GROUNDING EXISTING HANDHOLE FRAME AND COVER

Effective: May 22, 2002

Revised: July 1, 2015

873.02TS

Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the “District One Standard Traffic Signal Design Details,” and applicable portions of the Standard Specifications and District One Traffic Signal Special Provisions 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS and 817.01TS GROUNDING CABLE.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty UL listed grounding compression terminal. The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminates. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Basis of Payment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

TRAFFIC SIGNAL POST

Add to Article 875.02

(a) Ornamental Base Manufactured by Sternberg Lighting

Add fourth paragraph to Article 875.03

Contractor shall furnish and install ornamental post base manufactured by Sternberg Lighting as shown on the plan or as directed by the engineer.

Add third paragraph to Article 875.04 **Basis of Payment.**

The cost of ornamental post base shall be included in the cost of TRAFFIC SIGNAL POST, GALVANIZED STEEL of the specified height and will not be measured for payment.

Add the following to Article 1077.01 (c) of the Standard Specifications:

Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

PEDESTRIAN PUSH-BUTTON POST

Effective: May 22, 2002

Revised: July 01, 2015

876.01TS

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

The steel post shall be according to Article 1077.01. Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

MAST ARM ASSEMBLY AND POLE (INSTALL ONLY)

Revise Article 877.01 of the Standard Specifications to read:

Description. This work shall consist of installing a steel mast arm assembly and pole. Mast arm pole, mast arm, and luminaire arm materials to be provided to Contractor by the Village of Oak Park (or Village of Oak Park Contractor) under a separate contract. Contractor will need to make arrangements with the Village to have the materials transported from the storage site to the construction site and install as shown on the plans or directed by the engineer. The Village or Village's Contractor is responsible for transporting the materials to the job site, therefore, bid prices shall reflect this.

Add fourth paragraph to Article 877.03

Contractor shall install ornamental pole base manufactured by Sternberg Lighting as shown on plans or as directed by the engineer. Ornamental pole base will be provided to the contractor by the Village of Oak Park (or Village of Oak Park Contractor).

Basis of Payment.

This work shall be paid for at the contract unit price per EACH for STEEL MAST ARM ASSEMBLY AND POLE (INSTALL ONLY) or STEEL COMBINATION MAST ARM ASSEMBLY AND POLE (INSTALL ONLY). These items exclude the furnishing of the mast arm pole, mast arm, luminaire and arm, and ornamental pole base materials. Mast arm pole, mast arm, luminaire arm, and ornamental pole base materials to be provided to contractor by the Village of Oak Park (or Village of Oak Park Contractor).

Remove Article 1077.03 (a) of the Standard Specifications. Mast arm pole, mast arm, and luminaire arm materials to be provided to contractor by the Village of Oak Park (or Village of Oak Park Contractor). Contractor will need to provide anchor rods, nuts, washers, and all necessary materials to install and level the mast arm pole, mast arm, and luminaire arm provided by the Village as shown on the plans or directed by the Engineer. Contractor shall verify the sizes of the materials provided by the Village before ordering any materials needed to perform the installation.

CONCRETE FOUNDATIONS

Effective: May 22, 2002

Revised: July 01, 2015

878.01TS

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. (300 mm) at the threaded end.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:

The price shall include a concrete apron in front of the cabinet and UPS as shown in the plans or as directed by the engineer.

LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.
2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An Village representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.

3. All signal heads shall provide 12" (300 mm) displays with glossy black polycarbonate housings. All head housings shall be the same color (black) at the intersection. For new signalized intersections and existing signalized intersections where all signals heads are being replaced, the proposed head housings shall be black. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.
4. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 7 years from the date of traffic signal TURN-ON. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

4. The LEDs utilized in the modules shall be AllnGaP technology for red and InGaN for green and amber indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
6. LED arrows shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
 - a. 12 inch (300 mm) circular, multi-section
 - b. 12 inch (300 mm) arrow, multi-section
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.

7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.
- (e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.
1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
 2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.
- (f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.
1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Revise the second paragraph of Article 880.04 of the Standard Specifications to read:

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections in each signal face and the method of mounting.

LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.

4. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
5. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
6. The next cycle, following the preemption event, shall use the correct, initially programmed values.
7. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
8. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
9. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
10. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
11. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
12. In the event of a power outage, light output from the LED modules shall cease instantaneously.
13. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
14. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Basis of Payment.

Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Add the following to Article 881.04 of the Standard Specifications:

If the work consists of retrofitting an existing polycarbonate pedestrian signal head and pedestrian countdown signal head with light emitting diodes (LEDs), it will be paid for as a PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition.

TRAFFIC SIGNAL BACKPLATE

Effective: May 22, 2002

Revised: July 1, 2015

882.01TS

Delete 1st sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be louvered, formed ABS plastic".

Add the following to the third paragraph of Article 1078.03 of the Standard Specifications. The retroreflective backplate shall not contain louvers.

Delete second sentence of the fourth paragraph of Article 1078.03 the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor's recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

DETECTOR LOOP REPLACEMENT AND/OR INSTALLATION (ROADWAY GRINDING, RESURFACING, & PATCHING OPERATIONS)

Effective: January 1, 1985

Revised: January 5, 2016

886.02TS

The following Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction" Sections 810, 886, 1079 and 1088.

The intent of this Special Provision is to prescribe the materials and construction methods commonly used to replace traffic signal detector loops and replace magnetic signal detectors with detector loops during roadway resurfacing, grinding and patching operations. Loop detector replacement will not require the transfer of traffic signal maintenance from the District Electrical Maintenance Contractor to this contract's electrical contractor. Replacement of magnetic detector will require wiring revisions inside the control cabinet and therefore the transfer of maintenance will be required. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer.

The work to be provided under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Notification of Intent to Work.

Contracts such as pavement grinding or patching which result in the destruction of traffic signal detection require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the detection removal, the Contractor shall notify the:

- Traffic Signal Maintenance and Operations Engineer at (847)705-4424
- IDOT Electrical Maintenance Contractor at (773) 287-7600

at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection.

Failure to provide proper notification may require the District's Electrical Maintenance Contractor to be called to investigate complaints of inadequate traffic signal timing. All costs associated with these expenses will be paid for by the Contractor at no additional expense to the Department according to Section 109 of the "Standard Specifications."

Acceptance of Material.

The Contractor shall provide:

1. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
2. Four (4) copies of a letter listing the vendor's name and model numbers of the proposed equipment shall be supplied. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approved. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
3. One (1) copy of material catalog cuts.
4. The contract number, permit number or intersection location must be on each sheet of the letter and material catalog cuts as required in items 2 and 3.

Inspection of Construction.

When the road is open to traffic, except as otherwise provided in Section 801 and 850 of the Standard Specifications, the Contractor must request a turn-on and inspection of the completed detector loop installation at each separate location. This request must be made to the Traffic Signal Maintenance and Operations Engineer at (847)705-4424 a minimum of seven (7) working days prior to the time of the requested inspection.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. If this work is not completed in time, the Department reserves the right to have the work completed by others at the Contractor's expense.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid price, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements will be subject to removal and disposal at the Contractor's expense.

Restoration of Work Area.

Restoration of the traffic signal work area due to the detector loop installation and/or replacement shall be included in the cost of this item. All roadway surfaces such as shoulders, medians, sidewalks, pavement shall be replaced as shown in the plans or in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded.

Removal, Disposal and Salvage of Existing Traffic Signal Equipment.

The removal, disposal, and salvage of existing traffic signal equipment shall be included in the cost of this item. All material and equipment removed shall become the property of the Contractor and disposed of by the Contractor outside the State's right-of-way. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in this contract.

DETECTOR LOOP REPLACEMENT.

This work shall consist of replacing existing detector loops which are destroyed during grinding, resurfacing, or patching operations.

If damage to the detector loop is unavoidable, replacement of the existing detection system will be necessary. This work shall be completed by an approved Electrical Contractor as directed by the Engineer.

Replacement of the loops shall be accomplished in the following manner: The Engineer shall mark the location of the replacement loops. The Traffic Signal Maintenance and Operations Engineer shall be called to approve loop locations prior to the cutting of the pavement. The Contractor may reuse the existing coilable non-metallic conduit (CNC) located between the existing handhole and the pavement if it hasn't been damaged. CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes. All burrs shall be removed from the edges of the existing conduit which could cause damage to the new detector loop during installation. If the existing conduit is damaged beyond repair, if it cannot be located, or if additional conduits are required for each proposed loop; the Contractor shall be required to drill through the existing pavement into the appropriate handhole, and install 1" (25 mm) CNC. This work and the required materials shall not be paid for separately but shall be included in the pay item Detector Loop Replacement. Once suitable CNC raceways is established, the loop may be cut, installed, sealed and spliced to the twisted-shielded lead-in cable in the handhole.

All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement or the curb shall be cut with a 1/4" (6.3 mm) deep x 4" (100 mm) saw-cut to mark location of each loop lead-in.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Traffic Signal Maintenance and Operations Engineer (847)705-4424 to inspect and approve the layout.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details." Saw-cuts from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the handhole, shall be included in the detector loop pay item.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane. The sealant shall be installed 1/8" (3 mm) below the pavement surface. If installed above the surface the excess shall be removed immediately.

Round loop(s) 6 ft (1.8 m) diameter may be substituted for 6 ft (1.8 m) by 6 ft (1.8 m) square loop(s) and shall be paid for as 24 feet (7.2 m) of detector loop.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

Heat shrink splices shall be used according to the "District 1 Standard Traffic Signal Design Details."

Detector loop replacement shall be measured along the sawed slot in the pavement containing the loop cable up to the edge of pavement, rather than the actual length of the wire in the slot. Drilling handholes, sawing the pavement, furnishing and installing CNC to the appropriate handhole, cable splicing to provide a fully operable detector loop, testing and all trench and backfill shall be included in this item.

Basis of Payment.

Detector Loop Replacement shall be paid for at the contract unit price per foot (meter) of DETECTOR LOOP REPLACEMENT.

MAGNETIC DETECTOR REMOVAL AND DETECTOR LOOP INSTALLATION.

This work shall consist of the removal of existing magnetic detectors, magnetic detector lead-in cable and magnetic detection amplifiers and related control equipment wiring, installation of detector lead-in cable, detector loops, detector amplifiers and related equipment wiring. The detector loop, cable, and amplifier shall be installed according to the applicable portions of the "Standard Specifications" and the applicable portions of the Special Provision for "Detector Loop Replacement." All drilling of handholes, furnishing and installing CNC, cable splicing, trench and backfill, removal of equipment, and removing cable from conduit shall be included in this item.

Basis of Payment.

Magnetic Detector Removal and Detector Loop Installation shall be paid for at the contract unit price per foot (meter) for DETECTOR LOOP, TYPE I, per each for INDUCTIVE LOOP DETECTOR, and foot (meter) for ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR.

EMERGENCY VEHICLE PRIORITY SYSTEM

Description.

This work shall consist of furnishing all material and labor required for installing and wiring GPS-enabled Traffic Signal Preemption and Priority Control System and testing the fully operational system.

Materials.

Intersection Radio/GPS Module

The intersection radio/GPS module is required for the phase selector to communicate with vehicles having compatible 2.4GHz radio communication technology. The intersection radio/GPS module shall transmit a beacon every second and receive the data transmitted by the vehicle equipment and relay this information to the phase selector as well as other system-equipped intersections. It shall also obtain position information from the GPS satellites.

The intersection radio/GPS module shall contain a GPS receiver and antenna with the ability to obtain vehicle position, speed and heading from the GPS satellite system operated by the Department of Defense. The time information from the GPS satellites shall also be used to synchronize the frequency hopping of the 2.4 GHz radio and to time stamp an activity log. A dual-band GPS/2.4 GHz module and antenna shall be included.

The intersection radio/GPS module shall contain a 2.4 GHz spread spectrum/frequency hopping radio that shall provide the communications from the intersection to the vehicle as well as from intersection to intersection. The radio shall have a maximum transmit power of not more than 1 watt. The radio shall meet FCC Part 15 and Canada ICES-003 rules. A dual-band GPS/2.4 GHz module and antenna shall be included.

The intersection radio/GPS module shall be housed in a white, impact-resistant polycarbonate housing that shall include a water-resistant wire entry point for mounting on a mast arm or strain pole. As an alternative, the intersection radio shall be available for mounting inside a traffic cabinet with a matched, dual-band GPS/2.4 GHz antenna for mounting on top of the traffic cabinet.

Auxiliary Interface Panel

The auxiliary panel shall provide additional preemption outputs if needed. It shall also provide a connection point for the phase selector to monitor the status of the intersection's green lights (green sense). Additional communication ports may also be accessed via this panel. The panel shall also supply an output that may be used to synchronize other devices in the traffic cabinet to GPS time. GPS time synchronization shall be available either via discrete output or stream the GPS time via a serial port.

The auxiliary interface panel shall be available as an expansion device to facilitate interconnections between the phase selector and traffic cabinet wiring as well as provide additional outputs.

Card Rack

The card rack shall provide simplified installation of a phase selector into controller cabinets that do not already have a suitable card rack. The card rack shall provide 120 VAC to operate the phase selector. The required card rack shall provide simplified installation of a phase selector into controller cabinets that do not already have a suitable card rack.

The card rack shall be factory wired with one connector, located behind the card slot, a power supply inside the card rack and one connector on the front of the card rack. The card rack connector on the front shall provide four wires for each of the four outputs on the phase selector. It shall also contain a wire for logic common and wires for 120 VAC Hot neutral and ground.

The card rack shall capable of being powered by 100-240 VAC 50-60 Hz which shall be passed to the phase selector. The rack shall also have terminals for connecting Infrared detectors.

Additionally, there shall be an optional card rack with a built-in electromechanical relay for use in switching high current loads such as flashers and gate operators. The relay shall be capable of switching the following loads.

- a. Resistive
 - i. 10 A, 240 VAC
 - ii. 10 A, 30 VDC
- b. General Use
 - i. 7.5 A, 120 VAC
 - ii. 7.5 A, 240 VAC
 - iii. 7 A, 30 VDC
 - iv. 1/6 hp, 120 VAC
 - v. 1/3 hp, 240 VAC

Cable

Cable shall be as specified by the manufacturer.

Method of Measurement.

Units measured for payment shall be per each of installed EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

This work shall be paid for at the contract unit price per each for EMERGENCY VEHICLE PRIORITY SYSTEM which shall be payment in full for furnishing, installing and testing a GPS enabled vehicle priority/preemption system.

EMERGENCY VEHICLE PRIORITY SYSTEM DUEL DETECTOR UNIT

Description.

This work shall consist of furnishing all material and labor required for installing phase selector within the controller cabinet to process the data in order to validate that all parameters required for granting a priority request are met. It will request the controller to provide priority to a valid priority vehicle by connecting its outputs to the traffic controller's preemption inputs. Alternately the phase selector shall be able to connect to the traffic controller via Ethernet and send the priority request messages to the controller following the NTCIP 1211 communication protocol.

General Requirements

1. The phase selector shall be capable of receiving vehicle preemption and priority requests via infrared, radio, cellular and fiber network based communication.
2. The phase selector shall be capable of acting as a Priority Request Generator providing priority request information over ethernet per the NTCIP-1211 v02 communication standard.
3. The phase selector is designed to be installed in the traffic controller cabinet and is intended for use directly with most traffic controllers.
4. The phase selector will be a plug-in, four-channel, multiple-priority device intended to be installed directly into a card rack located within the controller cabinet.
5. The phase selector will be powered from 120 VAC or +24 VDC.
6. Programming the phase selector and retrieving the data stored in it will be accomplished using a computer and system interface software. The connection can be direct via the computer's communication (COM) port. The communication ports on the phase selector shall include: Ethernet, RS-232, USB
7. The phase selector will include the ability to directly sense the green traffic controller signal indications using dedicated sensing circuits and wires connected directly to field wire termination points in the traffic controller cabinet. This connection will be made using either the auxiliary interface panel or the auxiliary harness.
8. The phase selector will have the capability of storing up to 10,000 of the most recent priority control calls. When the log is full, the phase selector will drop the oldest entry to accommodate the new entry. The phase selector will store the record in non-volatile memory and will retain the record if power terminates. Each record entry will include the following points of information about the priority call: Agency, classification, identification number, priority level, direction, call duration, in range duration, final greens, duration of final green, time and data, turn signal, priority output active, preempt output activated, no preempt cause, speed, relative priority, directional priority.
9. Conditional Priority: Indication of low priority conditional priority value (if used). The phase selector will include several control timers that will limit or modify the duration of a priority control condition, by channel, and can be programmed from a computer. These values may be set to vary by time of day and day of the week. The control timers will be as follows: MAX CALL TIME, OFF APPROACH CALL TIME, LOST SIGNAL CALL HOLD TIME, CALL DELAY TIME
10. The phase selector shall have the ability to limit how many low priority calls will be placed within user defined time periods.
11. Up to 25 different radio channels will be available to be assigned to the phase selector.
12. The phase selector will have the option of operating in a mode that will vary the output based on the status of the approaching vehicle's turn signal.

13. Determination of when the vehicle is within the prescribed range. The phase selector will include one opto-isolated NPN output per channel that provides the following electrical signal to the appropriate pin on the card edge connector:
 - 6.25Hz \pm 0.1Hz 50% on/duty square wave in response to a Low priority call
 - A steady ON in response to a High priority call.
 - The phase selector will also have the option of providing separate outputs for High and Low priority calls for controllers that do not recognize a 6.25 Hz pulsed Low priority request.
 - Low priority outputs may also be set to steady "on".
 - Low priority outputs may be set to be activated on a first come-first served basis or all set to activate an output for all channels receiving requests from vehicles.
 - Additional outputs will also be available on the auxiliary interface panel.
14. The phase selector will accommodate two methods for setting range thresholds for High and Low priority signals. The range values shall also be adjustable based on time of day and day of the week.
 - Based on the approaching vehicle's Estimated Time of Arrival (ETA).
 - Based on the approaching vehicle's distance from the intersection.
 - i. The phase selector will have the following indicators: STATUS indicator, link indicator, radio indicator, LED indicators (one for high priority, one for low priority).
15. The phase selector will relay a priority request to the next adjacent intersection based on the intended direction as indicated by the vehicle's turn signal.
16. The phase selector will utilize the time obtained from the GPS satellites to time stamp the activity logs. The user will set the local time zone (offset from GPS time) via the interface software.
17. The phase selector shall be capable of call bridging. Call bridging enables the treatment of two vehicles requesting priority activation to have their calls linked together to hold a call to the controller so that they may traverse the approach together. This value shall be adjustable based on time of day and day of the week.
18. The phase selector shall have the ability to assign priority based on the direction that the low priority vehicle is approaching the intersection. This may be varied based on time of day and day of the week.
19. The phase selector shall support evacuation mode for low priority calls. Upon activation of this mode from the central management software, low priority vehicle calls shall be recognized by the phase selector as if they were high priority vehicle calls for a temporary period of time as defined by the user. Vehicles transmitting high priority signals shall continue to maintain priority over the evacuation mode priority vehicles.
20. The phase selector shall allow relative priority.
21. The phase selector shall be capable of distributing data in real-time. The unit shall distribute the data to other systems as it is collected by the device versus persisting the data for offloading at a scheduled time or relying on a client to poll at a specific interval.

Method of Measurement.

Units measured for payment shall be per each of installed EMERGENCY VEHICLE PRIORITY SYSTEM DUEL DETECTOR UNIT.

Basis of Payment.

This work shall be paid for at the contract unit price per each for EMERGENCY VEHICLE PRIORITY SYSTEM DUEL DETECTOR UNIT which shall be payment in full for furnishing, installing and testing phase selector in existing cabinet.

RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT

Effective: January 1, 2002

Revised: July 1, 2015

887.02TS

This item shall consist of relocating the existing emergency vehicle priority system, detector unit (single channel or dual channel) from its existing location to a new traffic signal post or mast arm assembly and pole, and connecting it to an emergency vehicle priority system, phasing unit. If the existing Emergency Vehicle Priority System, Detector Unit Assembly includes a Confirmation Beacon, the Confirmation Beacon shall also be relocated and connected to the Emergency Vehicle Priority System, Detector Unit and shall be included at no cost in this item.

The emergency vehicle system is not to be inoperative for more than 8 hours and the Contractor must notify the Municipality or Fire Protection District 72 hours prior to the disconnection of the equipment.

Basis of Payment.

This item will be paid for at the contract unit price each for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT.

RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT

Effective: January 1, 2002

Revised: July 1, 2015

887.03TS

This item shall consist of relocating the existing emergency vehicle priority system phasing unit from an existing traffic signal controller cabinet to a new traffic signal controller cabinet, as indicated in the plans or as directed by the Engineer.

The work shall include disconnecting the emergency vehicle priority system phasing unit(s) and reconnecting it into the new traffic signal controller cabinet.

The emergency vehicle system is not to be inoperative for more than 8 hours and the Contractor must notify the Municipality or Fire Protection District 72 hours prior to the disconnection of the equipment. The Contractor must demonstrate to the satisfaction of the Engineer that the emergency vehicle system operates properly.

Basis of Payment.

This item will be paid for on a basis of one (1) each per intersection for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT.

ACCESSIBLE PEDESTRIAN SIGNALS

Description.

This work shall consist of furnishing and installing pedestrian push button accessible pedestrian signals (APS) type. Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements.

The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications.

A pushbutton locator tone shall sound at each pushbutton with volume settings a maximum of 5 dBA louder than ambient sound.

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message.

A clear, verbal message shall be used to communicate the pedestrian walk interval. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name." Walk Sign is on to cross "Street Name." No other messages shall be used to denote the WALK interval.

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

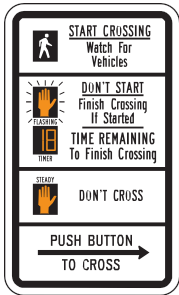
Pedestrian Pushbutton.

Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED indicator shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street. The recorded messages and roadway designations shall be confirmed with the engineer and included with submitted product data.

Signage.

A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall be standard MUTCD designs: R10-3e. An additional “Diagonal Crossing Ok” sign shall be installed above R10-3e at pedestrian push button locations at the intersections of Lake Street/Marion Street and Lake Street and Forest Avenue for the all ped signal phase. These signs shall not be measured for payment.



R10-3e



12\"X18\"

Tactile Arrow.

A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided either on the pushbutton or its sign.

Vibrotactile Feature.

The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Training.

The Contractor shall provide APS onsite training for Department personnel and person(s) or group that requested the installation of the APS. APS features and operation shall be demonstrated during the training. The training shall be presented by the APS equipment supplier. Time, date, and location of the training and demonstration shall be coordinated with the Engineer.

Basis of Payment.

This work will be paid for at the contract unit price each for a pedestrian push button, ACCESSIBLE PEDESTRIAN SIGNALS type and shall include furnishing, installation, mounting hardware, signage, message programming, and training.

TEMPORARY TRAFFIC SIGNAL INSTALLATION

Effective: May 22, 2002
Revised: January 1, 2017
890.01TS

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System.

General.

Only an approved controller equipment supplier will be allowed to assemble temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment supplier will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications and as modified herein.
2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the District approved closed loop equipment suppliers will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with the latest version software installed at the time of the signal TURN-ON.

- (b) Cabinets. All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4 inch (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
- (c) Grounding. Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS special provision.
- (d) Traffic Signal Heads. All traffic signal sections shall be 12 inches (300 mm). Pedestrian signal sections shall be 16 inch (406mm) x 18 inch (457mm). Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn on, the temporary traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be as directed by the engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
- (e) Interconnect.
 - 1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.

2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect, including any required fiber splices and terminations, shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project. Any temporary signal within an existing closed loop traffic signal system shall be interconnected to that system using similar brand control equipment at no additional cost to the contract.
3. Temporary wireless interconnect. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:
 - a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
 - b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
 - c. Antennas (Omni Directional or Yagi Directional)
 - d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
 - e. Brackets, Mounting Hardware, and Accessories Required for Installation
 - f. RS232 Data Cable for Connection from the radio to the local or master controller
 - g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed or existing master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the vendors recommendations.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary traffic signal installations shall have vehicular detection installed at all approaches of the intersection and as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. An equipment supplier shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.
- (h) Uninterruptable Power Supply. All temporary traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in 862.01TS UNINTERRUPTABLE POWER SUPPLY, SPECIAL Special Provision.
- (i) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist they shall be taken down and stored by the contractor and reflecting street name signs shall be installed on the temporary traffic signal installation.

- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.
- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and 850.01TS MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION Special Provisions. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).
- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Special Provisions and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.
- (m) Temporary Portable Traffic Signal for Bridge Projects.
 - 1. The controller and cabinet shall be NEMA type designed for NEMA TS2 Type 1 operation. Controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.
 - 2. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
 - 3. General.
 - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

- b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.
- c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
- d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.
- e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11.

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, the temporary wireless interconnect system, temporary fiber optic interconnect system, all material required, the installation and complete removal of the temporary traffic signal, and any changes required by the Engineer. Each intersection will be paid for separately.

TEMPORARY TRAFFIC SIGNAL TIMING

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

Description.

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

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings.
- (b) Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (c) Consultant shall provide monthly observation of traffic signal operations in the field.
- (d) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (e) Consultant shall make timing adjustments and prepare comment responses as directed by the Village Traffic Signal Engineer.
- (f) Return original timing plan once construction is complete.

Basis of Payment.

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

MODIFY EXISTING CONTROLLER CABINET

Effective: May 22, 2002

Revised: July 1, 2015

895.01TS

The work shall consist of modifying an existing controller cabinet as follows:

- (a) Uninterruptable Power Supply (UPS). The addition of uninterruptable power supply (UPS) to an existing controller cabinet could require the relocation of the existing controller cabinet items to allow for the installation of the uninterruptable power supply (UPS) components inside the existing controller cabinet as outlined under Sections 862 and 1074.04 of the Standard Specifications and the wiring of UPS alarms.
- (b) Light Emitting Diode (LED) Signal Heads, Light Emitting Diode (LED) Optically Programmed Signal Heads and Light Emitting Diode (LED) Pedestrian Signal Heads. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of the light emitting diode (LED) signal heads that are being installed at the existing traffic signal. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (c) Light Emitting Diode (LED), Signal Head, Retrofit. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of light emitting diode (LED) traffic signal modules, pedestrian signal modules, and pedestrian countdown signal modules as specified in the plans. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (d) This item shall include the upgrade of all non-railroad controller software to the latest version available at the time of the signal TURN-ON.

Basis of Payment.

Modifying an existing controller cabinet will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. This shall include all material and labor required to complete the work as described above, the removal and disposal of all items removed from the controller cabinet, as directed by the Engineer. The equipment for the Uninterruptable Power Supply (UPS) and labor to install it in the existing controller cabinet shall be included in the pay item Uninterruptable Power Supply, Special or Uninterruptable Power Supply, Ground Mounted.

TEMPORARY TRAFFIC SIGNAL INSTALLATION (SPECIAL)

Description. The work shall consist of modifying permanent signal at the intersection of Harlem Avenue and Lake Street during maintenance of traffic, maintaining the signal system during maintenance of traffic activity and finally reverting the signal positions and timing back to its original configuration.

General: The work shall be performed under section 800 of standard specification. Contractor shall assume responsibility of the signal at an agreed upon date before the modifying the signal. The maintenance responsibility shall be transferred back to Illinois Department of Transportation after the signal location and operation are reverted back to the original configuration.

Basis of Payment.

Modifying an existing signal at Harlem Avenue and Lake Street will be paid for at the contract unit price per each for TEMPORARY TRAFFIC SIGNAL INSTALLATION (SPECIAL). This shall include all material and labor required to complete the work as described above.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Effective: May 22, 2002

Revised: July 1, 2015

895.02TS

Add the following to Article 895.05 of the Standard Specifications:

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

All equipment to be returned to the Village of Oak Park shall be delivered by the Contractor to the Village's Traffic Signal Maintenance main facility. The Contractor shall contact the Village's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the Village, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned according to these requirements, it will be rejected by the Village's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the Village's Electrical Maintenance Contractor indicating the items have been returned in good condition.

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

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

REMOVE EXISTING HANDHOLE AND DOUBLE HANDHOLE

Add the following to Article 895.05(b) of the Standard Specifications:

All handhole lids shall be salvaged and delivered to the Village of Oak Park Electrical Department.

VIDEO DETECTION SYSTEM

Description.

This work shall consist of furnishing and installing a system that monitors vehicles on a roadway via the processing of video images and that provides detector outputs to a traffic signal controller. This work shall consist of furnishing and installing video cameras, cables, video processors, a controller interface unit, and a remote communication module to operate the video vehicle detection system at one signalized intersection.

Materials: The Video Detection System Complete Intersection shall be one of the following systems:

- Autoscope Encore, Terra TIP, Terra TAP
- Iteris RZ-4 WDR, Vantage Edge 2, Vantage TS2-IM, Edge Connect
- Autoscope AIS-IV, Terra RackVision,

All the cables from the detection cameras to the traffic signal cabinet and within the traffic signal cabinet itself shall be included in the cost of this item.

The Video Detection System Complete Intersection shall also include a LCD monitor in the traffic signal cabinet with BNC connector for video input. Surge protection and grounding shall be provided to protect the video detection cameras and components located in the traffic signal cabinet.

The system shall have anonymous FTP capabilities disabled by the vendor/equipment supplier or provide a feature for the user to disable the functionality through the standard internal menu.

Installation. The video detection camera shall be installed on top of the luminaire arm, or traffic signal mast arm as directed by the Engineer. Occasionally overhead utility wires may obstruct the camera's field of view and prevent proper detector placement. In the event of an obstructed view, the camera shall be installed on a J-hook below the luminaire arm, instead of the normal mounting bracket. All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

Layer II and/or Layer III switches for communication shall be installed as directed by the engineer.

Basis of Payment This item will be paid for at the contract unit price per each for VIDEO DETECTION SYSTEM. The unit price shall include all associated equipment, hardware, switches, cables, materials and labor required to install the system at one signalized intersection and in operation to the satisfaction of the Traffic Engineer. If required, the cost of the J-hook shall be included in the cost of VIDEO DETECTION SYSTEM.

FOUR CELL MICRODUCT

Description. This work shall consist of providing and installing a detectable 4-cell HDPE innerduct within proposed conduits as shown on the plans.

Materials. Innerduct shall contain four individual cells and shall have size large enough to fit the fiber optic cable shown on the plans. Innerduct shall be sized to be placed in a larger conduit. The tracer cable can be embedded into the duct.

Innerduct shall be installed in accordance with manufactures guidelines.

Basis of Payment. This work will be paid for at the contract unit price per FOOT for FIBER OPTIC INNERDUCT 1 1/4" DIA., which price shall include all equipment, labor, and materials necessary to complete this work as specified including mounting hardware and terminating connectors.

FIBER OPTIC CABLE, 144 FIBER, SINGLE MODE

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be of model approved by the Village of Oak Park.

Modify last sentence of Article 872.04(a) of the Standard Specifications to read: At controller cabinet and at handhole, the cable shall be clearly marked as noted on the plans.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

REBUILD EXISTING HANDHOLE

Effective: January 1, 2002
Revised: July 1, 2015
895.04TS

This item shall consist of rebuilding and bringing to grade a handhole at a location shown on the plans or as directed by the Engineer. The work shall consist of removing the handhole frame and cover and the walls of the handhole to a depth of eight (8) inches below the finished grade.

Upon completion of the above work, four (4) holes, four (4) inches in depth and one half (1/2) inch in diameter, shall be drilled into the remaining concrete; one hole centered on each of the four handhole walls. Four (4) #3 steel dowels, eight (8) inches in length, shall be furnished and shall be installed in the drilled holes with a masonry epoxy.

All concrete debris shall be disposed of outside the right-of-way.

The area adjacent to each side of the handhole shall be excavated to allow forming. All steel hooks, handhole frame, cover, and concrete shall be provided to construct a rebuilt handhole according to applicable portions of Section 814 of the Standard Specification and as modified in 814.01TS HANDHOLES Special Provision. The existing frame and cover shall be replaced if it was damaged during removal or as determined by the Engineer.

Basis of Payment.

This work shall be paid for at the contract unit price each for REBUILD EXISTING HANDHOLE, which price shall be payment in full for all labor, materials, and equipment necessary to complete the work described above and as indicated on the drawings.

REMOVAL OF LIGHTING UNIT, SALVAGE

Description. This work shall consist of the removal and disposal of existing roadway light units as directed by the engineer.

Construction Requirements. All construction requirements shall be in accordance with SECTION 842 REMOVAL OF LIGHTING UNITS, of the Standard Specifications.

The poles, mast arms, luminaires, and all associated hardware and appurtenances shall remain the property of the Village of Oak Park and shall be delivered by the Contractor to a location within the Village of Oak Park chosen by the Engineer and unloaded and stacked there, as directed by the Engineer. Wood blocking, banding, or other appurtenant items required for proper stacking and protection shall be included.

The Engineer shall determine 1 existing roadway poles that will be salvaged.

Luminaires shall be removed, boxed in new containers, approved by the Engineer, and delivered to a Village of Oak Park facility, as designated by the Engineer.

Method of Measurement. Each lighting unit which is removed and delivered to a Village of Oak Park facility will be counted as a unit of payment.

Basis of Payment. Removal of lighting units will be paid for at the contract unit price per each for REMOVAL OF LIGHTING UNIT, SALVAGE.

REMOVAL OF POLE FOUNDATION

Description. This work shall consist of the removal and disposal of existing light pole foundations.
General. No removal work will be permitted without approval from the Engineer. Removal shall not start until permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the Engineer will take place before any associated proposed permanent lighting is approved for operation.

Removal of Pole Foundation. Concrete foundations shall be removed to at least 2 ft below grade, with removed material disposed of according to Article 202.03. The removal shall extend deeper where required to facilitate roadway or sidewalk construction at no additional cost to the Owner. Underground conduits and cables shall be separated from the foundation at 2.5 ft below grade and shall be abandoned or re-used as indicated.

The void caused by the removal of the foundations shall be backfilled according to Article 819.04.

Method of Measurement. Each lighting unit foundation which is removed and disposed of as indicated, will be measured for payment per each.

Basis of Payment. This work will be paid for at the contract unit price each for REMOVAL OF POLE FOUNDATION.

HANDHOLES (LIGHTING)

Add the following to Section 814 of the Standard Specifications:

All lighting handholes shall be concrete, poured in place, with inside dimensions of 21-1/2 inches (549mm) minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Street Lighting" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (15.875mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300mm).

All conduits shall enter the handhole at a depth of 30 inches (760mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

LIGHT POLE FOUNDATION

Description. Light pole foundations shall be constructed to support ornamental light units at locations as indicated on the Plans. This work shall include installing any necessary hardware (entering conduits, bolts, anchor rods, grounding, etc.) as shown on the Plans. This work shall also include any topsoil, fertilizing, seeding, and mulching of the distributed areas in accordance with Sections 211, 250, and 251 of the Standard Specifications.

Materials. Light pole foundations shall be according to materials defined in Article 836.02 of Section 836 of the Standard Specifications. All anchor bolts shall be in accordance with Section 1006.09 of the Standard Specifications except that all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hooks. Anchor bolts shall provide bolt spacing as shown in the Plans and as required by the cabinet manufacturer.

The light pole foundations shall also be fabricated in accordance with Section 1070 of the Standard Specifications. These concrete foundations shall be fabricated from material new and unused in any previous application. The manufacturer shall provide a Certificate of Compliance that the materials are new and meet the specified requirements in accordance with the Standard Specifications and as shown on the Plans.

CONSTRUCTION REQUIREMENTS

The Engineer will determine the final placement of the light pole foundations. Foundation dimensions shall be in accordance with those dimensions shown in the Plans on the detail sheet "Light Pole Foundation". The foundation shall be located as required in order to avoid existing and relocated utilities. The top of the foundation shall be finished level. Shimming of the appurtenance to be attached will not be permitted.

Prior to pouring the foundation, the Contractor shall check the Plans for the specific number, size, and direction of conduit entrances required at the given location. All conduits in the foundation shall be installed rigidly in place before concrete is deposited in the form. Bushings shall be provided at the ends of the conduit. Anchor rods and ground rod shall be set in place before the concrete is deposited by means of a template constructed to space the anchor rods according to the pattern of the bolt holes in the base of the appurtenance to be attached. The appurtenance shall not be erected on the foundation until the bases have cured for at least (7) days. The Concrete shall cure according to Article 1020.13 of the Standard Specifications.

Method of Measurement. Light pole foundations shall be measured for payment in feet of the concrete foundation in-place installed in accordance with the total length of concrete foundation required for light pole foundations as indicated on the Plans and as directed by the Engineer. Extra foundation depth, beyond the directive of the Engineer, will not be measured for payment.

Basis of Payment. Concrete foundations will be paid for at the contract unit price per foot for LIGHT POLE FOUNDATION, of the diameter and length indicated. The price shall include payment in full for all necessary excavation, backfilling, disposal of unsuitable material, form work, furnishing, installing, and testing all materials (entering conduits, bolts, anchor rods, grounding, etc.) within the limits of the foundation. Any topsoil, fertilizing, seeding, and mulching of the distributed areas as well as all associated labor is to be included in this Contract unit price.

PEDESTRIAN ST LIGHT

Description. This item shall consist of furnishing, testing as required, and installing a complete assembly of ornamental decorative pole, and luminaires suitable for permanent pedestrian lighting as specified herein.

General. The lighting pole, ornamental base, anchor base, and luminaires shall be a complete assembly and designed and installed as detailed on the plans. The pole and luminaire assembly shall be designed for a minimum wind speed of 90 mph with a 1.3 gust factor and is in accordance with the latest edition of the American Association of State and Highway Officials (AASHTO) specifications for luminaire supports and assemblies.

Pole. The pole assembly shall consist of an aluminum 10' pole shaft, a cast aluminum anchor base, an ornamental shroud as detailed on the plans. The pole shaft shall be fabricated from round aluminum tubing in accordance with AA6083-t8. The pole shaft will have two (2) 4" x 8" reinforced handholes with a 1 ½-13 grounding lug and a gasketed handhole cover with stainless steel core nylon hex head screws. Four (4) 1" x 18" long galvanized steel anchor bolts with two (2) each hex nuts and flat washers for leveling will be supplied to anchor the pole. The bolt circle shall be 12" and the anchor bolt projection from the foundation shall be 5". The anchor bolts shall conform to ASTM F1554 GR 55.

The pole shall be Sternberg as shown on the plans.

Luminaire. The luminaire shall be Sternberg LED for roadway and LED for sidewalk as shown on the fixture schedules.

Fusing. Fuse holders and fuses shall be supplied. For lighting, the fusing shall be standard-type small dimension double pole fuse holders with insulated boots and (2) 3A fuses. For outlets, the fusing shall be standard-type small dimension single pole fuse holders with insulated boots and (1) 5A fuse.

Finish. The pole, luminaries and bracket arm assembly shall all be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.

Warranty. Five-year limited warranty. See product and finish warranty guide for details.

Listings. UL listed, suitable for wet locations.

Method of Measurement. The assembly furnished and installed will be measured as each.

Basis of Payment. This item shall be paid at the contract unit price each for PEDESTRIAN ST LIGHT, which shall be payment in full for the material and work described herein.

ORNAMENTAL LIGHT UNIT, COMPLETE

Description. This item shall consist of furnishing, testing as required, and installing a complete assembly of ornamental decorative pole, and luminaires suitable for permanent roadway lighting as specified herein.

General. The lighting pole, ornamental base, anchor base, luminaire arms and luminaries shall be a complete assembly and designed and installed as detailed on the plans. The pole and luminaire assembly shall be designed for a minimum wind speed of 90 mph with a 1.3 gust factor and is in accordance with the latest edition of the American Association of State and Highway Officials (AASHTO) specifications for luminaire supports and assemblies.

Pole. The pole assembly shall consist of an aluminum 26' pole shaft, a cast aluminum anchor base, an ornamental shroud, luminaire arms and banner arms as detailed on the plans. The pole shaft shall be fabricated from round aluminum tubing in accordance with AA6061-T6. The tube profile will consist of one (1) piece .250" thick with a top diameter of 6.00" and a bottom diameter of 6.00". The pole shaft will have two (2) 4" x 8" reinforced handholes with a 1 ½-13 grounding lug and a gasketed handhole cover with stainless steel core nylon hex head screws. Four (4) 1" x 40" long galvanized steel anchor bolts with two (2) each hex nuts and flat washers for leveling will be supplied to anchor the pole. The bolt circle shall be 14" and the anchor bolt projection from the foundation shall be 5". The anchor bolts shall conform to ASTM F1554 GR 55. The pole shall be Sternberg as shown on the plans.

Luminaire. The luminaire shall be Sternberg LED for roadway and LED for sidewalk as shown on the plan details.

Arms. Banner arms shall be supplied but not mounted to poles.

Fusing. Fuse holders and fuses shall be supplied. For lighting, the fusing shall be standard-type small dimension double pole fuse holders with insulated boots and (2) 3A fuses. For outlets, the fusing shall be standard-type small dimension single pole fuse holders with insulated boots and (1) 5A fuse.

Finish. The pole, luminaries and bracket arm assembly shall all be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.

Warranty. Five-year limited warranty. See product and finish warranty guide for details.

Listings. UL listed, suitable for wet locations.

Method of Measurement. The assembly furnished and installed will be measured as each.

Basis of Payment. This item shall be paid at the contract unit price each for ORNAMENTAL LIGHT UNIT, COMPLETE, which shall be payment in full for the material and work described herein.

ORNAMENTAL LUMINAIRE, LED, VERTICAL MOUNT, LOW WATTAGE

Description. This item shall consist of furnishing, testing as required, and installing a complete assembly of ornamental decorative luminaire suitable for permanent roadway lighting as specified herein.

General. The lighting luminaire shall be a complete assembly and designed and installed as detailed on the plans.

Luminaire. The luminaire shall be Sternberg LED for roadway as shown on the plan details.

Fusing. Fuse holders and fuses shall be supplied. For lighting, the fusing shall be standard-type small dimension double pole fuse holders with insulated boots and (2) 3A fuses. For outlets, the fusing shall be standard-type small dimension single pole fuse holders with insulated boots and (1) 5A fuse.

Finish. The luminaires and bracket arm assembly shall all be painted black using a powder coat paint process. The paint finish procedures shall be submitted with catalog cuts at the time of contract award.

Warranty. Five-year limited warranty. See product and finish warranty guide for details.

Listings. UL listed, suitable for wet locations.

Method of Measurement. The assembly furnished and installed will be measured as each.

Basis of Payment. This item shall be paid at the contract unit price each for ORNAMENTAL LUMINAIRE, LED, VERTICAL MOUNT, LOW WATTAGE, which shall be payment in full for the material and work described herein.

LIGHTING CONTROLLER, SPECIAL

Description. This item will consist of furnishing and installing a new electrical lighting controller for the purpose of controlling lighting, festoon outlets, electrical signage, LCD signage and other miscellaneous electrical circuits at Marion Street as shown in the contract plans.

Construction Requirements. Work under this item will be performed in accordance with Section 825 of the Standard Specifications and National Electric Code Standards, except as herein modified.

The controller shall be configured to have a 120/208v three phase 400 Ampere main circuit breaker and a separate 200 Ampere contactor and time control clock for controlling lighting and an additional 200 Ampere contactor and time control clock for controlling festoon outlets. The controller shall be configured for time clock operation with a photocell override.

Method of Measurement. This work will be measured on a per each basis.

Basis of Payment. This work will be paid for at the contract unit price per each for **LIGHTING CONTROLLER, SPECIAL**, which price will include all necessary materials, tools, and appurtenances. The contractor will furnish all materials for a complete installation.

MODIFY EXISTING LIGHTING CONTROLLER

Description. This item will consist of furnishing and installing modifications to an existing electrical lighting controller for the purpose of controlling lighting, festoon outlets, electrical signage, LCD signage and other miscellaneous electrical circuits at Euclid Street as shown in the contract plans.

Construction Requirements. Work under this item will be performed in accordance with Section 825 of the Standard Specifications and National Electric Code Standards, except as herein modified.

The controller shall be configured to have an additional 120/240v single phase 100 Ampere contactor and time control clock installed for controlling festoon outlets. The contractor shall furnish and install additional branch circuit breakers to energize the additional circuits as shown on the plans. The controller shall be configured for time clock operation with a photocell override.

Method of Measurement. This work will be measured on a per each basis.

Basis of Payment. This work will be paid for at the contract unit price per each for **MODIFY EXISTING LIGHTING CONTROLLER**, which price will include all necessary materials, tools, and appurtenances. The contractor will furnish all materials for a complete installation.

CONDUIT, FLEXIBLE NON-METALLIC, WEATHERPROOF, 1.0" DIAMETER

Description. This item will consist of furnishing and installing a length of conduit or conduits for the purpose of installing a new festoon outlet in a proposed tree pit.

Construction Requirements. Work under this item will be performed in accordance with Article 800 of the Standard Specifications and National Electric Code Standards, except as herein modified.

Method of Measurement. This work will be measured on a per foot basis.

Basis of Payment. This work will be paid for at the contract unit price per foot for **CONDUIT, FLEXIBLE NON-METALLIC, WEATHERPROOF, 1.0" DIAMETER**, which price will include all necessary materials, tools, couplings and appurtenances. This item will include all work necessary to bring the conduit into the tree pit to make the necessary connection to a new festoon outlet. The contractor will furnish all materials for a complete installation.

GFCI 20 AMP DUPLEX RECEPTACLE

Description. This item shall consist of furnishing, testing as required, and installing a complete outdoor receptacle in a tree pit suitable for permanent festoon lighting as specified herein.

Materials. All receptacles must be of the weather-resistant feed-through GFCI type, with heavy duty receptacles capable of protecting downstream receptacles on a single circuit, grounding type, UL rated Class A, Group 1, rated 20 amperes, 125 volt, 60 Hz, with a 5 mA ground fault trip level, NEMA configuration 5-20R. Receptacles must be suitable for wet locations for use in compliance with NEC Article 406.9, Receptacles in Damp or Wet Locations.

Construction Requirements. All outlets must be properly supported in accordance with NEC Article 314, Outlet, Device, Pull, and Junction Box; Conduit Bodies; Fittings; and Handhole Enclosures, and in addition to NEC requirements, outlets cannot be supported by raceways alone.

Method of Measurement. The assembly furnished and installed will be measured as each.

Basis of Payment. Installation of receptacle units will be paid for at the contract unit price per each for GFCI 20 AMP DUPLEX RECEPTACLE.

GENERAL ELECTRICAL REQUIREMENTS

Effective: September 1, 2019

This special provision replaces Articles 801.01 – 801.07, 801.09 – 801-16 of the Standard Specifications.

Definition. Codes, standards, and industry specifications cited for electrical work shall be by definition the latest adopted version thereof, unless indicated otherwise.

Materials by definition shall include electrical equipment, fittings, devices, motors, appliances, fixtures, apparatus, all hardware and appurtenances, and the like, used as part of, or in connection with, electrical installation.

Standards of Installation. Materials shall be installed according to the manufacturer's recommendations, the NEC, OSHA, the NESC, and AASHTO's Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

All like materials shall be from the same manufacturer. Listed and labeled materials shall be used whenever possible. The listing shall be according to UL or an approved equivalent.

Safety and Protection. Safety and protection requirements shall be as follows.

Safety. Electrical systems shall not be left in an exposed or otherwise hazardous condition. All electrical boxes, cabinets, pole handholes, etc. which contain wiring, either energized or non-energized, shall be closed or shall have covers in place and be locked when possible, during nonworking hours.

Protection. Electrical raceway or duct openings shall be capped or otherwise sealed from the entrance of water and dirt. Wiring shall be protected from mechanical injury.

Equipment Grounding Conductor. All electrical systems, materials, and appurtenances shall be grounded. Good ground continuity throughout the electrical system shall be assured, even though every detail of the requirements is not specified or shown. Electrical circuits shall have a continuous insulated equipment grounding conductor. When metallic conduit is used, it shall be bonded to the equipment grounding conductor, but shall not be used as the equipment grounding conductor.

Detector loop lead-in circuits, circuits under 50 volts, and runs of fiber optic cable will not require an equipment grounding conductor.

Where connections are made to painted surfaces, the paint shall be scraped to fully expose metal at the connection point. After the connection is completed, the paint system shall be repaired to the satisfaction of the Engineer.

Bonding of all boxes and other metallic enclosures throughout the wiring system to the equipment grounding conductor shall be made using a splice and pigtail connection. Mechanical connectors shall have a serrated washer at the contact surface.

All connections to structural steel or fencing shall be made with exothermic welds. Care shall be taken not to weaken load carrying members. Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate a mechanical connection. The epoxy coating shall be repaired to the satisfaction of the Engineer. Where connections are made to insulated conductors, the connection shall be wrapped with at least four layers of electrical tape extended 6 in. (150 mm) onto the conductor insulation.

Submittals. At the preconstruction meeting, the Contractor shall submit a written listing of manufacturers for all major electrical and mechanical items. The list of manufacturers shall be binding, except by written request from the Contractor and approval by the Engineer. The request shall include acceptable reasons and documentation for the change.

Major items shall include, but not limited to the following:

Type of Work (discipline)	Item
All Electrical Work	Electric Service Metering Emergency Standby System Transformers Cable Unit Duct Splices Conduit Surge Suppression System
Lighting	Tower Pole Luminaire Foundation Breakaway Device Controllers Control Cabinet and Peripherals
ITS	Controller Cabinet and Peripherals CCTV Cameras Camera Structures Ethernet Switches Detectors Detector Loop Fiber Optic Cable

Within 30 calendar days after contract execution, the Contractor shall submit, for approval, one copy each of the manufacturer's product data (for standard products and components) and detailed shop drawings (for fabricated items). Submittals for the materials for each individual pay item shall be complete in every respect. Submittals which include multiple pay items shall have all submittal material for each item or group of items covered by a particular specification, grouped together and the applicable pay item identified. Various submittals shall, when taken together, form a complete coordinated package. A partial submittal will be returned without review unless prior written permission is obtained from the Engineer.

The submittal shall be properly identified by route, section, county, and contract number.

The Contractor shall have reviewed the submittal material and affixed his/her stamp of approval, with date and signature, for each individual item. In case of subcontractor submittal, both the subcontractor and the Contractor shall review, sign, and stamp their approval on the submittal.

Illegible print, incompleteness, inaccuracy, or lack of coordination will be grounds for rejection.

Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations.

The Engineer will review the submittals for conformance with the design concept of the project according to Article 105.04 and the following. The Engineer will stamp the drawings indicating their status as "Approved", "Approved as Noted", "Disapproved", or "Information Only". Since the Engineer's review is for conformance with the design concept only, it shall be the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, or layout drawings by the Engineer's approval thereof. The Contractor shall still be in full compliance with contract and specification requirements.

All submitted items reviewed and marked "Disapproved" or "Approved as Noted" shall be resubmitted by the Contractor in their entirety, unless otherwise indicated within the submittal comments.

Work shall not begin until the Engineer has approved the submittal. Material installed prior to approval by the Engineer, will be subject to removal and replacement at no additional cost to the Department.

Unless otherwise approved by the Engineer, all of the above items shall be submitted to the Engineer at the same time. Each item shall be properly identified by route, section, and contract number.

Electronic Submittals. Unless otherwise directed, the Contractor shall utilize the **Traffic Operations Construction Submittal (TOCS)** system.

Certifications. When certifications are specified and are available prior to material manufacture, the certification shall be included in the submittal information. When specified and only available after manufacture, the submittal shall include a statement of intent to furnish certification. All certificates shall be complete with all appropriate test dates and data.

Authorized Project Delay. See Article 801.08

Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than fourteen (14) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 1 foot (304.8 mm) to either side.. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

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

Maintenance and Responsibility During Construction.

Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance of the existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately

The proposed lighting system must be operational prior to opening the roadway to traffic unless temporary lighting exists which is designed and installed to properly illuminate the roadway.

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance.

Damage to Electrical Systems. Should damage occur to any existing electrical systems through the Contractor's operations, the Engineer will designate the repairs as emergency or non-emergency in nature.

Emergency repairs shall be made by the Contractor, or as determined by the Engineer, the Department, or its agent. Non-emergency repairs shall be performed by the Contractor within six working days following discovery or notification. All repairs shall be performed in an expeditious manner to assure all electrical systems are operational as soon as possible. The repairs shall be performed at no additional cost to the Department.

Lighting. An outage will be considered an emergency when three or more lights on a circuit or three successive lights are not operational. Knocked down materials, which result in a danger to the motoring public, will be considered an emergency repair.

Temporary aerial multi-conductor cable, with grounded messenger cable, will be permitted if it does not interfere with traffic or other operations, and if the Engineer determines it does not require unacceptable modification to existing installations.

Marking Proposed Locations for Highway Lighting System. The Contractor shall mark or stake the proposed locations of all poles, cabinets, junction boxes, pull boxes, handholes, cable routes, pavement crossings, and other items pertinent to the work. A proposed location inspection by the Engineer shall be requested prior to any excavation, construction, or installation work after all proposed installation locations are marked. Any work installed without location approval is subject to corrective action at no additional cost to the Department.

Inspection of electrical work. Inspection of electrical work shall be according to Article 105.12 and the following.

Before any splice, tap, or electrical connection is covered in handholes, junction boxes, light poles, or other enclosures, the Contractor shall notify and make available such wiring for the Engineer's inspection.

Testing. Before final inspection, the electrical work shall be tested. Tests may be made progressively as parts of the work are completed, or may be made when the work is complete. Tests shall be made in the presence of the Engineer. Items which fail to test satisfactorily shall be repaired or replaced. Tests shall include checks of control operation, system voltages, cable insulation, and ground resistance and continuity.

The forms for recording test readings will be available from the Engineer in electronic format. The Contractor shall provide the Engineer with a written report of all test data including the following:

- Voltage Tests
- Amperage Tests
- Insulation Resistance Tests
- Continuity tests
- Detector Loop Tests

Lighting systems. The following tests shall be made.

- (1) Voltage Measurements. Voltages in the cabinet from phase to phase and phase to neutral, at no load and at full load, shall be measured and recorded. Voltage readings at the last termination of each circuit shall be measured and recorded.
- (2) Insulation Resistance. Insulation resistance to ground of each circuit at the cabinet, with all loads connected, shall be measured and recorded.

On tests of new cable runs, the readings shall exceed 50 megohms for phase and neutral conductors with a connected load over 20 A, and shall exceed 100 megohms for conductors with a connected load of 20 A or less.

On tests of cable runs which include cables which were existing in service prior to this contract, the resistance readings shall be the same or better than the readings recorded at the maintenance transfer at the beginning of the contract. Measurements shall be taken with a megohm meter approved by the Engineer.

- (3) Loads. The current of each circuit, phase main, and neutral shall be measured and recorded. The Engineer may direct reasonable circuit rearrangement. The current readings shall be within ten percent of the connected load based on material ratings.
- (4) Ground Continuity. Resistance of the system ground as taken from the farthest extension of each circuit run from the controller (i.e. check of equipment ground continuity for each circuit) shall be measured and recorded. Readings shall not exceed 2.0 ohms, regardless of the length of the circuit.
- (5) Resistance of Grounding Electrodes. Resistance to ground of all grounding electrodes shall be measured and recorded. Measurements shall be made with a ground tester during dry soil conditions as approved by the Engineer. Resistance to ground shall not exceed 10 ohms.

ITS. The following test shall be made in addition to the lighting system test above.

Detector Loops. Before and after permanently securing the loop in the pavement, the resistance, inductance, resistance to ground, and quality factor for each loop and lead-in circuit shall be tested. The loop and lead-in circuit shall have an inductance between 20 and 2500 microhenries. The resistance to ground shall be a minimum of 50 megohms under any conditions of weather or moisture. The quality factor (Q) shall be 5 or greater.

Fiber Optic Systems. Fiber optic testing shall be performed as required in the fiber optic cable special provision and the fiber optic splice special provision.

All test results shall be furnished to the Engineer seven working days before the date the inspection is scheduled.

Contract Guarantee. The Contractor shall provide a written guarantee for all electrical work provided under the contract for a period of six months after the date of acceptance with the following warranties and guarantees.

- (a) The manufacturer's standard written warranty for each piece of electrical material or apparatus furnished under the contract. The warranty for light emitting diode (LED) modules, including the maintained minimum luminance, shall cover a minimum of 60 months from the date of delivery.
- (b) The Contractor's written guarantee that, for a period of six months after the date of final acceptance of the work, all necessary repairs to or replacement of said warranted material or apparatus for reasons not proven to have been caused by negligence on the part of the user or acts of a third party shall be made by the Contractor at no additional cost to the Department.
- (c) The Contractor's written guarantee for satisfactory operation of all electrical systems furnished and constructed under the contract for a period of six months after final acceptance of the work.

The warranty for an uninterruptable power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years.

Record Drawings. Alterations and additions to the electrical installation made during the execution of the work shall be neatly and plainly marked in red by the Contractor on the full-size set of record drawings kept at the Engineer's field office for the project. These drawings shall be updated on a daily basis and shall be available for inspection by the Engineer during the course of the work. The record drawings shall include the following:

- Cover Sheet
- Summary of Quantities, electrical items only
- Legends, Schedules and Notes
- Plan Sheet
- Pertinent Details
- Single Line Diagram
- Other useful information useful to locate and maintain the systems.

Any modifications to the details shall be indicated. Final quantities used shall be indicated on the Summary of Quantities. Foundation depths used shall also be listed.

As part of the record drawings, the Contractor shall inventory all materials, new or existing, on the project and record information on inventory sheets provided by the Engineer.

The inventory shall include:

- Location of Equipment, including rack, chassis, slot as applicable.
- Designation of Equipment
- Equipment manufacturer
- Equipment model number
- Equipment Version Number
- Equipment Configuration
 - Addressing, IP or other
 - Settings, hardware or programmed
- Equipment Serial Number

The following electronic inventory forms are available from the Engineer:

- Lighting Controller Inventory
- Lighting Inventory
- Light Tower Inspection Checklist
- ITS Location Inventory

The information shall be entered in the forms; handwritten entries will not be acceptable; except for signatures. Electronic file shall also be included in the documentation.

When the work is complete, and seven days before the request for a final inspection, the set of contract drawings, stamped "**RECORD DRAWINGS**", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy's for review and approval.

In addition to the record drawings, PDF copies of the final catalog cuts which have been Approved and Approved as Noted with applicable follow-up shall be submitted along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible. Hard copies of the catalog are not required with this submittal.

The Contractor shall provide two sets of electronically produced drawings in a moisture proof pouch to be kept on the inside door of the controller cabinet or other location approved by the Engineer. These drawings shall show the final as-built circuit orientation(s) of the project in the form of a single line diagram with all luminaires numbered and clearly identified for each circuit.

Final documentation shall be submitted as a complete submittal package, i.e. record drawings, test results, inventory, etc. shall be submitted at the same time. Partial piecemeal submittals will be rejected without review. A total of five hardcopies and CDROMs of the final documentation shall be submitted.

GPS Documentation. In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following electrical components being installed, modified or being affected in other ways by this contract:

- All light poles and light towers.
- Handholes and vaults.
- Junction Boxes
- Conduit roadway crossings.
- Controllers.
- Control Buildings.
- Structures with electrical connections, i.e. DMS, lighted signs.
- Electric Service locations.
- CCTV Camera installations.
- Roadway Surveillance installations.
- Fiber Optic Splice Locations.
- Fiber Optic Cables. Coordinates shall be recorded along each fiber optic cable route every 200 feet.
- All fiber optic slack locations shall be identified with quantity of slack cable included. When sequential cable markings are available, those markings shall be documented as cable marking into enclosure and marking out of enclosure.

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. District
2. Description of item
3. Designation
4. Use
5. Approximate station
6. Contract Number
7. Date
8. Owner
9. Latitude
10. Longitude
11. Comments

A spreadsheet template will be available from the Engineer for use by the Contractor.

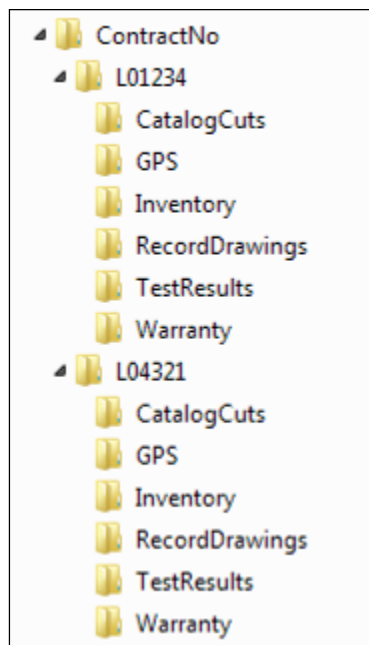
Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 20 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified. **Data collection prior to the submittal and review of the sample data of existing data points will be unacceptable and rejected.**

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years.”

The documents on the CD shall be organized by the Electrical Maintenance Contract Management System (EMCMS) location designation. If multiple EMCMS locations are within the contract, separate folders shall be utilized for each location as follows:



Extraneous information not pertaining to the specific EMCMS location shall not be included in that particular folder and sub-folder.

The inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.

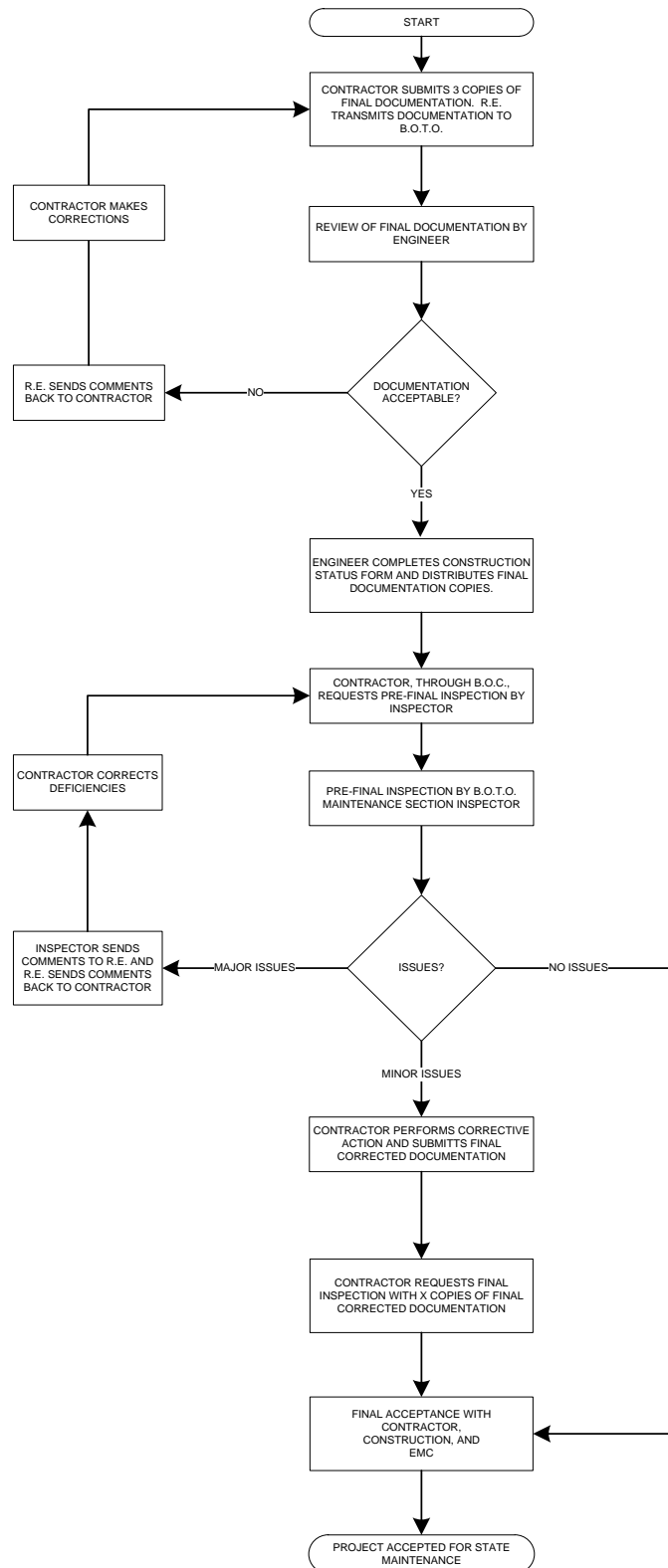
The Final Acceptance Documentation Checklist shall be completed and is contained elsewhere herein.

All CD's shall be labeled as illustrated in the CD Label Template contained herein.

Acceptance. Acceptance of electrical work will be given at the time when the Department assumes the responsibility to protect and maintain the work according to Article 107.30 or at the time of final inspection.

When the electrical work is complete, tested, and fully operational, the Contractor shall schedule an inspection for acceptance with the Engineer no less than seven working days prior to the desired inspection date. The Contractor shall furnish the necessary labor and equipment to make the inspection.

A written record of the test readings taken by the Contractor according to Article 801.13 shall be furnished to the Engineer seven working days before the date the inspection is scheduled. Inspection will not be made until after the delivery of acceptable record drawings, specified certifications, and the required guarantees.



Final Acceptance Documentation Checklist

LOCATION	
Route	Common Name
Limits	Section
Contract #	County
Controller Designation(s)	EMC Database Location Number(s)

ITEM	Contractor (Verify)	Resident Engineer (Verify)
Record Drawings -Four hardcopies (11" x 17") -Scanned to two CD-ROMs	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Field Inspection Tests -Voltage -Amperage -Cable Insulation Resistance -Continuity -Controller Ground Rod Resistance (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
GPS Coordinates -Excel file (Check Special Provisions, Excel file scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Job Warranty Letter (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Catalog Cut Submittals -Approved & Approved as Noted (Scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Lighting Controller Inventory Form (Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>
Light Tower Inspection Form (If applicable, Four Hardcopies & scanned to two CD's)	<input type="checkbox"/>	<input type="checkbox"/>

Four Hardcopies & scanned to two CD's shall be submitted for all items above. The CD ROM shall be labeled as shown in the example contained herein.

General Notes:

Record Drawings – The record drawings should contain contract cover sheet, summary of quantities showing all lighting pay item sheets, proposed lighting plans and lighting detail sheets. Submit hardcopies 11 x 17 size. Include the original “red-ink” copy. The red-ink markup should be neatly drawn. Record drawings copies should be legible. Blurred copies will not be acceptable. Temporary lighting plans and removal lighting plans should not be part of the set.

Field Inspection Tests – Testing should be done for proposed cables. Testing shall be per standard specifications. Forms shall be neatly filled out.

GPS Coordinates – Check special provisions “General Electrical Requirements”. Submit electronic “EXCEL” file.

Job Warranty Letter – See standard specifications.

Cutsheet Submittal – See special provisions “General Electrical Requirements”. Scan Approved and Approved as Noted cutsheets.

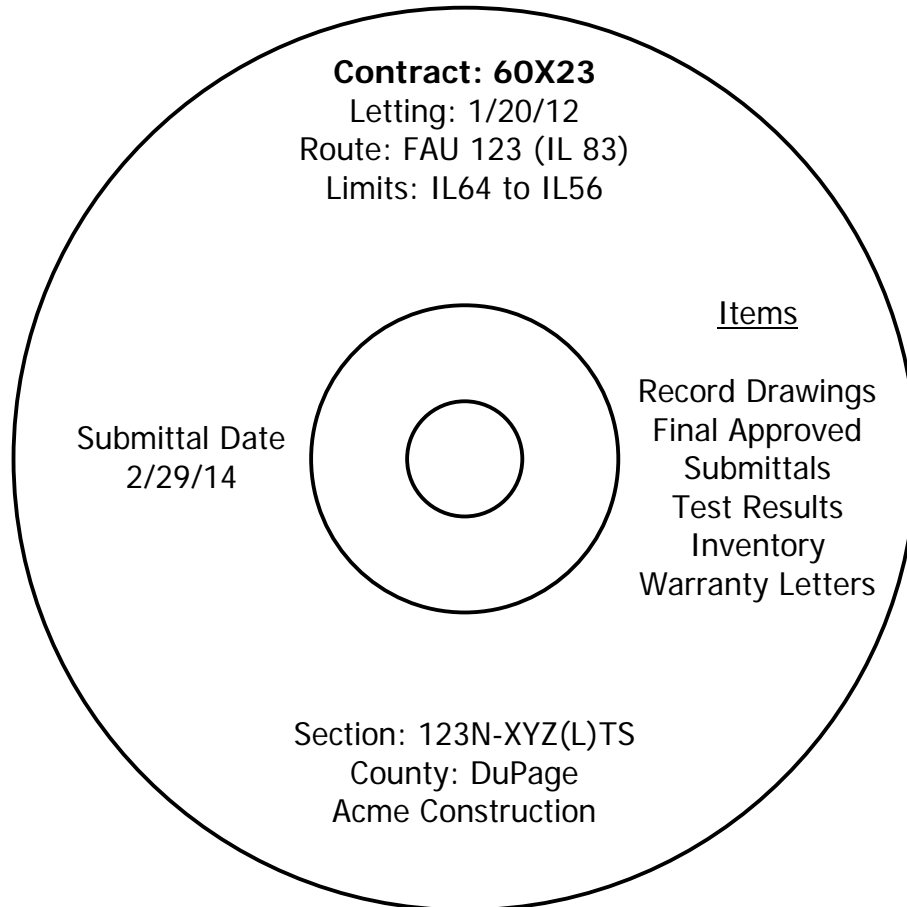
Lighting Inventory Form – Inventory form should include only proposed light poles, proposed light towers, proposed combination (traffic/light pole) lighting and proposed underpass luminaires.

Lighting Controller Inventory Form – Form should be filled out for only proposed lighting controllers.

Light Tower Safety Inspection Form – Form should be filled out for each proposed light tower.

CD LABEL FORMAT TEMPLATE.

Label must be printed; hand written labels are unacceptable and will be rejected.



CIRCUIT BREAKER, 1-POLE, 20 AMP, 120 V IN EXISTING TSC CABINET

Description. This item will consist of furnishing and installing a single pole thermal-magnetic circuit breaker in an existing traffic signal controller cabinet at the designated location creating a controlled power source to supply a proposed irrigation controller, parking sign, or wayfinding sign.

Material. The material of the circuit breaker must meet the requirements of the Standard Specifications Article 1068.01(e)(3).

Installation. The installation shall be in accordance with Section 801 of the Standard Specifications. The circuit breaker must be mounted on a 3/8" thick phenolic linen base bakelite panel 3" x 8" which will be attached on the inside of the lower left hand side of the controller cabinet with 4-1/4"-20x7/8" brass screws in holes which will be drilled and tapped into the side of the cabinet for this purpose. The ends of any screws protruding through the side of cabinet wall must be filed or ground off flush with the face of the cabinet. The bakelite panel shall be set out from the wall of the controller cabinet using four 1/4" bakelite spacer washers, one at each mounting screw position.

The line side terminal of the circuit breaker must be connected to one of the line side terminals of the main circuit breaker with a 1/C - #4 - 600V - 90 degree C. - insulated copper cable trained around the cabinet in a neat and workman like manner. This cable will be a part of the installation of the circuit breaker and will not be a separate pay item. The installation and connection of the load side cables servicing the irrigation controller will be a part of the installation of service cable and not a part of the installation of the circuit breaker.

Basis of Payment. This item will be paid for at the contract unit price each for a CIRCUIT BREAKER, 1-POLE, 20 AMP, 120V IN EXISTING TSC CABINET complete in place which will constitute payment in full for furnishing, installing and making line side connections of the circuit breaker.

MAINTENANCE OF LIGHTING SYSTEMS

Effective: March 1, 2017

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

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

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

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

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

Maintenance of Existing Lighting Systems

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

Extent of Maintenance.

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

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

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

Maintenance of Proposed Lighting Systems

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

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

Lighting System Maintenance Operations

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

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

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

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

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

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

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

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

Operation of Lighting

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

Method of Measurement

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

Basis of Payment. Maintenance of lighting systems shall be paid for at the contract unit price per calendar month for **MAINTENANCE OF LIGHTING SYSTEM.**

IDOT TRAINING PROGRAM GRADUATE ON-THE-JOB TRAINING SPECIAL PROVISION

Effective: August 1, 2012 Revised: February 2, 2017

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

IDOT funds, and various Illinois community colleges operate, pre-apprenticeship training programs throughout the State to provide training and skill-improvement opportunities to promote the increased employment of minority groups, disadvantaged persons and women in all aspects of the highway construction industry. The intent of this IDOT Pre-Apprenticeship Training Program Graduate (TPG) special provision (Special Provision) is to place these certified program graduates on the project site for this Contract in order to provide the graduates with meaningful on-the-job training. Pursuant to this Special Provision, the Contractor must make every reasonable effort to recruit and employ certified TPG trainees to the extent such individuals are available within a practicable distance of the project site.

Specifically, participation of the Contractor or its subcontractor in the Program entitles the participant to reimbursement for graduates' hourly wages at \$15.00 per hour per utilized TPG trainee, subject to the terms of this Special Provision. Reimbursement payment will be made even though the Contractor or subcontractor may also receive additional training program funds from other non-IDOT sources for other non-TPG trainees on the Contract, provided such other source does not specifically prohibit the Contractor or subcontractor from receiving reimbursement from another entity through another program, such as IDOT through the TPG program. With regard to any IDOT funded construction training program other than TPG, however, additional reimbursement for other IDOT programs will not be made beyond the TPG Program described in this Special Provision when the TPG Program is utilized.

No payment will be made to the Contractor if the Contractor or subcontractor fails to provide the required on-site training to TPG trainees, as solely determined by IDOT. A TPG trainee must begin training on the project as soon as the start of work that utilizes the relevant trade skill and the TPG trainee must remain on the project site through completion of the Contract, so long as training opportunities continue to exist in the relevant work classification. Should a TPG trainee's employment end in advance of the completion of the Contract, the Contractor must promptly notify the IDOT District EEO Officer for the Contract that the TPG's involvement in the Contract has ended. The Contractor must supply a written report for the reason the TPG trainee involvement terminated, the hours completed by the TPG trainee on the Contract, and the number of hours for which the incentive payment provided under this Special Provision will be, or has been claimed for the separated TPG trainee.

Finally, the Contractor must maintain all records it creates as a result of participation in the Program on the Contract, and furnish periodic written reports to the IDOT District EEO Officer that document its contractual performance under and compliance with this Special Provision. Finally, through participation in the Program and reimbursement of wages, the Contractor is not relieved of, and IDOT has not waived, the requirements of any federal or state labor or employment law applicable to TPG workers, including compliance with the Illinois Prevailing Wage Act.

METHOD OF MEASUREMENT: The unit of measurement is in hours.

BASIS OF PAYMENT: This work will be paid for at the contract unit price of \$15.00 per hour for each utilized certified TPG Program trainee (TRAINEES TRAINING PROGRAM GRADUATE). The estimated total number of hours, unit price, and total price must be included in the schedule of prices for the Contract submitted by Contractor prior to beginning work. The initial number of TPG trainees for which the incentive is available for this contract is 5.

The Department has contracted with several educational institutions to provide screening, tutoring and pre-training to individuals interested in working as a TPG trainee in various areas of common construction trade work. Only individuals who have successfully completed a Pre-Apprenticeship Training Program at these IDOT approved institutions are eligible to be TPG trainees. To obtain a list of institutions that can connect the Contractor with eligible TPG trainees, the Contractor may contact: HCCTP TPG Program Coordinator, Office of Business and Workforce Diversity (IDOT OBWD), Room 319, Illinois Department of Transportation, 2300 S. Dirksen Parkway, Springfield, Illinois 62764. Prior to commencing construction with the utilization of a TPG trainee, the Contractor must submit documentation to the IDOT District EEO Officer for the Contract that provides the names and contact information of the TPG trainee(s) to be trained in each selected work classification, proof that that the TPG trainee(s) has successfully completed a Pre-Apprenticeship Training Program, proof that the TPG is in an Apprenticeship Training Program approved by the U.S. Department of Labor Bureau of Apprenticeship Training, and the start date for training in each of the applicable work classifications.

To receive payment, the Contractor must provide training opportunities aimed at developing a full journeyworker in the type of trade or job classification involved. During the course of performance of the Contract, the Contractor may seek approval from the IDOT District EEO Officer to employ additional eligible TPG trainees. In the event the Contractor subcontracts a portion of the contracted work, it must determine how many, if any, of the TPGs will be trained by the subcontractor. Though a subcontractor may conduct training, the Contractor retains the responsibility for meeting all requirements imposed by this Special Provision. The Contractor must also include this Special Provision in any subcontract where payment for contracted work performed by a TPG trainee will be passed on to a subcontractor.

Training through the Program is intended to move TPGs toward journeyman status, which is the primary objective of this Special Provision. Accordingly, the Contractor must make every effort to enroll TPG trainees by recruitment through the Program participant educational institutions to the extent eligible TPGs are available within a reasonable geographic area of the project. The Contractor is responsible for demonstrating, through documentation, the recruitment efforts it has undertaken prior to the determination by IDOT whether the Contractor is in compliance with this Special Provision, and therefore, entitled to the Training Program Graduate reimbursement of \$15.00 per hour.

Notwithstanding the on-the-job training requirement of this TPG Special Provision, some minimal off-site training is permissible as long as the offsite training is an integral part of the work of the contract, and does not compromise or conflict with the required on-site training that is central to the purpose of the Program. No individual may be employed as a TPG trainee in any work classification in which he/she has previously successfully completed a training program leading to journeyman status in any trade, or in which he/she has worked at a journeyman level or higher.

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

LOCAL ROADS SPECIAL PROVISION 107-4

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:

County of Cook

Village of Oak Park

Village of River Forest


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



Route FAU 1405	Marked Route Lake Street	Section 16-00264-00-PV
Project Number JCKZ(724)	County Cook County	Contract Number 61F36

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 William McKenna, P.E.	Title Village Engineer	Agency Village of Oak Park
Signature 		Date 10/9/18

I. Site Description

A. Provide a description of the project location (include latitude and longitude):

The improvements for Lake St begin at Sta. 10+26, approximately 26' E of Harlem Ave and ends at Sta. 44+15, 50' E of Euclid Ave.
Latitude: 41°53'19", Longitude: 87°48'03"

B. Provide a description of the construction activity which is subject of this plan:

The work consists of tree removal and replacement, earth excavation, removal and disposal of unsuitable material, storm sewer and drainage structures, water main appurtenances, irrigation systems, streetscape furniture and amenities, decorative lighting, erosion control, hot-mix asphalt full-depth pavement 10", PCC driveway pavement, HES PCC base course, 9", PCC sidewalk, paver blocks, brick paversm decorative combination curb & gutter , and traffic signal modernization.

C. Provide the estimated duration of this project:

Estimated duration of this project is one (1.5) years

D. The total area of the construction site is estimated to be 5.80 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 3.33 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.95

F. List all soils found within project boundaries. Include map unit name, slope information and erosivity:

Urban Land; Orthents, loamy, undulating; Orthents, loamy-Urban Land

G. Provide an aerial extent of wetland acreage at the site:

No wetlands within project limits

H. Provide a description of potentially erosive areas associated with this project:

Earthwork (excavation and embankment) in the reconstruction sections are potentially erosive.

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.):

- 1) Storm Sewers: New storm sewer will be installed in the W and E sections of the project.
- 2) Water Main: proposed water main appurtenances are proposed throughout the length of the project and will be constructed during various stages as shown in the plans.
- 3) Pavement (including curb & gutter, brick pavers, and sidewalk) construction will be done during various stages. These items are located throughout the entire project and are depicted in the plans.

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:

Village of Oak Park

L. The following is a list of General NPDES ILR40 permittees within whose reporting jurisdiction this project is located.

Cook County
Village of Oak Park

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:

Combined Sewer to MWRD interceptor.

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.

All areas outside of the limits of the proposed improvements and all areas outside of the proposed ROW shall be protected and remain undisturbed.

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):

NA

a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

NA

- 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:

NA

- c. Provide a description of the location(s) of direct discharge from the project site to the 303(d) water body:

NA

- d. Provide a description of the location(s) of any dewatering discharges to the MS4 and/or water body:

NA

2. TMDL (fill out this section if checked above)

- a. The name(s) of the listed water body:

NA

- 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:

NA

- 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:

NA

P. The following pollutants of concern will be associated with this construction project:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Soil Sediment | <input checked="" type="checkbox"/> Petroleum (gas, diesel, oil, kerosene, hydraulic oil / fluids) |
| <input checked="" type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Antifreeze / Coolants |
| <input checked="" type="checkbox"/> Concrete Truck waste | <input checked="" type="checkbox"/> Waste water from cleaning construction equipment |
| <input checked="" type="checkbox"/> Concrete Curing Compounds | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Solid waste Debris | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paints | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Solvents | <input type="checkbox"/> Other (specify) _____ |
| <input checked="" type="checkbox"/> Fertilizers / Pesticides | <input type="checkbox"/> Other (specify) _____ |

II. Controls

This section of the plan addresses the controls that will be implemented for each of the major construction activities described in I.C. above and for all use areas, borrow sites, and waste sites. For each measure discussed, the Contractor will be responsible for its implementation as indicated. The Contractor shall provide to the Resident Engineer a plan for the implementation of the measures indicated. The Contractor and subcontractors, will notify the Resident Engineer of any proposed changes, maintenance, or modifications to keep construction activities compliant with the Permit ILR10. Each such Contractor has signed the required certification on forms which are attached to, and are a part of, this plan:

- A. **Erosion and Sediment Controls:** At a minimum, controls must be coordinated, installed, and maintained to:
1. Minimize the amount of soil exposed during construction activity;
 2. Minimize the disturbance of steep slopes;
 3. Maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible;
 4. Minimize soil compaction and, unless infeasible, preserve topsoil.
- B. **Stabilization Practices:** Provided below is a description of interim and permanent stabilization practices, including

site- specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to: temporary seeding, permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided below in II(B)(1) and II(B)(2), stabilization measures shall be initiated **immediately** where construction activities have temporarily or permanently ceased, but in no case more than **one (1) day** after the construction activity in that portion of the site has temporarily or permanently ceases on all disturbed portions of the site where construction will not occur for a period of fourteen (14) or more calendar days.

1. Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
2. On areas where construction activity has temporarily ceased and will resume after fourteen (14) days, a temporary stabilization method can be used.

The following stabilization practices will be used for this project:

- | | |
|--|---|
| <input type="checkbox"/> Preservation of Mature Vegetation | <input checked="" type="checkbox"/> Erosion Control Blanket / Mulching |
| <input type="checkbox"/> Vegetated Buffer Strips | <input type="checkbox"/> Sodding |
| <input type="checkbox"/> Protection of Trees | <input type="checkbox"/> Geotextiles |
| <input type="checkbox"/> Temporary Erosion Control Seeding | <input checked="" type="checkbox"/> Other (specify) DUST CONTROL WATERING |
| <input type="checkbox"/> Temporary Turf (Seeding, Class 7) | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Temporary Mulching | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Seeding | <input type="checkbox"/> Other (specify) _____ |

Describe how the stabilization practices listed above will be utilized during construction:

1) Erosion Control Blanket: This item will be used to prevent erosion in areas of exposed soils until permanent restorations can be completed.

2) Dust Control Watering - This item will be provided for areas exposed during the mass grading/excavation to control the discharge of sediment through wind erosion during dry periods of construction, areas that are exposed during excavation shall receive dust control watering to minimize dust.

Describe how the stabilization practices listed above will be utilized after construction activities have been completed:

The erosion control practices listed above shall be removed upon final stabilization or incorporated into the final stabilization of the site.

- 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:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Perimeter Erosion Barrier | <input type="checkbox"/> Rock Outlet Protection |
| <input type="checkbox"/> Temporary Ditch Check | <input type="checkbox"/> Riprap |
| <input checked="" type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Gabions |
| <input type="checkbox"/> Sediment Trap | <input type="checkbox"/> Slope Mattress |
| <input type="checkbox"/> Temporary Pipe Slope Drain | <input type="checkbox"/> Retaining Walls |
| <input type="checkbox"/> Temporary Sediment Basin | <input type="checkbox"/> Slope Walls |
| <input type="checkbox"/> Temporary Stream Crossing | <input type="checkbox"/> Concrete Revetment Mats |
| <input checked="" type="checkbox"/> Stabilized Construction Exits | <input type="checkbox"/> Level Spreaders |
| <input type="checkbox"/> Turf Reinforcement Mats | <input type="checkbox"/> Other (specify) _____ |

- | | |
|---|--|
| <input type="checkbox"/> Permanent Check Dams | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Permanent Sediment Basin | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Aggregate Ditch | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Paved Ditch | <input type="checkbox"/> Other (specify) _____ |

Describe how the structural practices listed above will be utilized during construction:

- 1) **Perimeter Erosion Barrier:** This item will be used to prevent silt/sediment from leaving any stockpile areas. Perimeter erosion barrier will be modified as necessary to accommodate the construction and repaired/replaced as necessary. This item will remain in place until all remaining items of the project have been completed.
- 2) **Storm Drain Inlet Protection:** This item will be utilized at all manholes, catch basins and inlets with open grates. Inlet filters will be installed directly on the drainage structure or under the grate of the drainage structure resting on the lip of the frame. Inlet filters will be checked on a regular basis and any sediment/debris will be removed to maintain inlet protection. Storm Drain Inlet Protection will be done in accordance with Article 280.04 of the IDOT Specifications. Pipe protection will be implemented at outfalls.
- 3) **Stabilized Construction Exits:** Stabilized Construction Exits shall be used at the locations indicated on the plans for all construction traffic entering or exiting the construction site in order to reduce the tracking of sediment onto adjacent areas. Stabilized Construction Exits shall be continuously maintained during construction operations.

Describe how the structural practices listed above will be utilized after construction activities have been completed:

Temporary structural features including perimeter erosion barrier, storm drain inlet protection, and stabilized construction exits shall be removed upon completion of construction and final grade stabilization.

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.

Polymer flocculants may be used in conjunction with dewatering operations. At the discretion of the contractor and the direction of the engineer, polymer flocculants may be used to remove suspended solids from water pumped from excavations as required by construction operations. All pumping/dewatering shall follow the dewatering plan. All treated material resulting from the use of polymer flocculants shall be removed by the contractor.

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.

- 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.

- 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:

- 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:

The management practices, controls, and other provisions contained in this plan are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual Standards and Specifications which was used as a guide in designing the erosion and sediment control features. Procedures and requirements specified in applicable soil erosion and sediment control plans or storm water management plans approved by local officials shall be described or incorporated by reference below. Requirements specified in soil erosion and sediment control plans, site permits, storm water management site plans, or site permits approved by county, state, or local officials that are applicable to protecting surface water resources are, upon submittal of a Notice of Intent (NOI), incorporated and enforceable under this permit even if they are not specifically included in the plan. The soil erosion and sediment control for this site must meet the requirements of the following agencies:

Illinois Department of Transportation
Illinois Environmental Protection Agency
U.S. 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.

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, soil erosion and sediment control measures, and other protective measures identified in this plan and standard specifications:

The contractor will identify an Erosion Control Representative for the project. His duties will be to supervise the maintenance of the soil erosion and sediment control measures and implementation of this plan.

The following shall be the minimum maintenance required:

- A. Sediment control, silt fence 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.
- B. Stabilized construction entrances shall have sediment build up removed as necessary.
- C. Inlet filters shall be cleaned on a regular basis as needed or required by the Engineer.
- D. Temporary and permanent erosion control measures shall be inspected weekly or after any rainfall event in excess of 0.50".

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:

The engineer will be responsible for conducting soil erosion and sediment control inspections. The contractor's SESCO shall be notified when the inspections are to take place and is expected to be present during the inspections. A maintenance inspection report will be completed after each inspection. A copy of the report is to be completed by the inspector and stored on-site with a copy given to the contractor. The inspection shall include all disturbed areas of the construction site which have not been finally stabilized, the structural control measures, locations where vehicles enter or exit the site and all major outfalls. Such inspection shall be conducted at least once every seven calendar days and within 24 hours of the end of a rain storm (or equivalent snowfall) that is 0.5 inches or greater. Depth of rain fall will be determined by an on-site rain gauge. The engineer shall read the rain gauge daily and after each rain storm.

A. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and waterways. Soil erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. If repair is necessary, it will be initiated within 24 hours of the completion of the inspection report. Where discharge locations or points are accessible, they shall be inspected to ascertain whether the measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site tracking.

B. Based on the results of the inspection, the description of potential pollutant sources and pollution prevention measures shall be evaluated. The storm water pollution prevention plan shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspection shall be implemented within seven calendar days following the inspection.

C. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this Stormwater Pollution Prevention Plan, and action taken and retained as part of the plan for at least three years after the date of inspection. The report shall be signed in accordance with the general permit.

D. If any violations of the provisions of this plan are identified during the conduct of the construction work covered by this plan, the engineer shall complete and file an "incidence of noncompliance" (ion) report for the identified violation. The engineer shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information about 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 non-compliance. All reports of noncompliance shall be signed by a responsible authority in accordance with the general permit. The report of noncompliance shall be mailed to the Incidence of Non-Compliance Address listed above.

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.



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 FAU 1405	Marked Route Lake Street	Section 16-00264-00-PV
Project Number JCKZ(724)	County Cook County	Contract Number 61F36

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

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

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

OWNER INFORMATION

Permit No. ILR10 _____

Company/Owner Name: Village of Oak Park
Mailing Address: 201 South Boulevard Phone: (708) 358-5722
City: Oak Park State: IL Zip: 60302 Fax: _____
Contact Person: William McKenna, P.E. E-mail: bmckenna@oak-park.us
Owner Type (select one) City

CONTRACTOR INFORMATION

MS4 Community: Yes No

Contractor Name: To Be Determined
Mailing Address: _____ Phone: _____
City: _____ State: _____ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Select One: New Change of information for: ILR10 _____
Project Name: Lake Street Streetscape County: Cook
Street Address: Lake Street from IL 43 to Euclid Ave City: Oak Park IL Zip: 60302
Latitude: 41 53 19 Longitude: 87 48 3 7 39N 13E
(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range
Approximate Construction Start Date Apr 1, 2019 Approximate Construction End Date Nov 15, 2020

Total size of construction site in acres: 5.80
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: On Project Site - Location to be Determined City: Oak Park

SWPPP contact information: Inspector qualifications: _____
Contact Name: Brian Pawula P.E. _____

Phone: _____ Fax: N/A E-mail: brianp@thomas-engineering.com

Project inspector, if different from above Inspector qualifications: _____

Inspector's Name: To be determined

Phone: N/A Fax: N/A E-mail: N/A

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) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

TYPE OF CONSTRUCTION (select one)

Construction Type Transportation

SIC Code: _____

Type a detailed description of the project:

The work consists of tree removal and replacement, earth excavation, removal and disposal of unsuitable material, storm sewer and drainage structures, water main appurtenances, irrigation systems, streetscape furniture and amenities, decorative lighting, erosion control, hot-mix asphalt surface course, hot-mix asphalt full-depth pavement 10", PCC driveway pavement, HES PCC base course 9", PCC sidewalk, paver blocks, brick pavers, decorative combination concrete curb and gutter, and traffic signal modernization.

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: Village of Oak Park

Name of closest receiving water body to which you discharge: Combined Sewer to MWRD Interceptors

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:

William McKenna, P.E.

Printed Name:

10/9/18

Date:

Village Engineer

Title:



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829

217/782-0610

11/15/2018

VILLAGE OF OAK PARK
WILLIAM MCKENNA
201 S BOULEVARD
OAK PARK, IL 60302

RE: FACILITY : LAKE STREET STREETScape, OAK PARK, IL
COUNTY : COOK, NPDES Permit No : ILR10AL03
Notice of Coverage Under Construction Site Activity Storm Water General Permit

Dear NPDES Permittee:

We have reviewed your application and determined that storm water discharges associated with industrial activity from construction sites are appropriately covered by the attached General NPDES Permit issued by the Agency. Your discharge is covered by this permit effective as of the date of this letter or as identified by the conditions of the permit. The Permit as issued covers application requirements, a storm water pollution prevention plan and reporting requirements.

As a Permit Holder, it is your responsibility to:

1. Submit a modified Notice of Intent of any **ownership or address change** to the Permit Section within 30 days;
2. **A Notice of Termination** must be sent to the Agency, at the address indicated on the Notice of Termination, once your construction project has been **completed and the site is properly stabilized**. A Notice of Termination form has been enclosed for your convenience;

This letter shows your facility permit number below the construction site name. Please save this number and reference it in all future correspondence. Should you have any questions concerning the Permit, please contact Melissa Parrott at (217) 782-0610.

Very truly yours,

Amy L. Dragovich, P.E.
Manager, Permit Section
Division of Water Pollution Control

CC : Records Unit, North Cook County SWCD, Will - South Cook County SWCD, Region : DesPlaines

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 11-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER

NPDES Permit No. ILR10

General NPDES Permit No. ILR10

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
www.epa.state.il.us

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit
For
Storm Water Discharges From Construction Site Activities

Expiration Date: July 31, 2023

Issue Date: August 3, 2018

Effective Date: August 3, 2018

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter I), and the Clean Water Act, and the regulations thereunder the following discharges are authorized by this permit in accordance with the conditions and attachments herein.

Amy L. Dragovich, P.E.
Manager, Permit Section
Division of Water Pollution Control

Part I. COVERAGE UNDER THIS PERMIT

A. **Permit Area.** The permit covers all areas of the State of Illinois with discharges to any Waters of the United States.

B. **Eligibility.**

1. This permit shall authorize all discharges of storm water associated with industrial activity from a construction site that will result in the disturbance of one or more acres total land area or a construction site less than one acre of total land that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb one or more acres total land area. This permit may authorize discharges from other construction site activities that have been designated by the Agency as having the potential to adversely affect the water quality of waters of the state. This permit also authorizes discharges from construction sites previously approved by the Agency under the previous version of ILR10 that are still occurring after the effective date of this permit, except for discharges identified under Part I.B.3 (Limitations on Coverage). Where discharges from construction sites were initially covered under the previous version of the ILR10, the Storm Water Pollution Prevention Plan must be updated/revised as necessary to ensure compliance with the provisions of this reissued ILR10 permit.
2. This permit may only authorize a storm water discharge associated with industrial activity from a construction site that is mixed with a storm water discharge from an industrial source other than construction, where:
 - a. the industrial source other than construction is located on the same site as the construction activity;
 - b. storm water discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and
 - c. storm water discharges associated with industrial activity from the areas of the site where industrial activities other than construction are occurring (including storm water discharges from dedicated asphalt plants and dedicated concrete plants) are covered by a different NPDES general permit or an individual permit authorizing such discharges.
3. **Limitations on Coverage.** The following storm water discharges from construction sites are not authorized by this permit:
 - a. storm water discharges associated with industrial activities that originate from the site after construction activities have been completed and the site has undergone final stabilization;
 - b. discharges that are mixed with sources of non-storm water other than discharges identified in Part III.A (Prohibition on Non-Storm Water Discharges) of this permit and in compliance with paragraph IV.D.5 (Non-Storm Water Discharges) of this permit;

NPDES Permit No. ILR10

- c. storm water discharges associated with industrial activity that are subject to an existing NPDES individual or general permit or which are issued a permit in accordance with Part VI.N (Requiring an Individual Permit or an Alternative General Permit) of this permit. Such discharges may be authorized under this permit after an existing permit expires provided the existing permit did not establish numeric limitations for such discharges;
- d. storm water discharges from construction sites that the Agency has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard;
- e. storm water discharges that the Agency, at its discretion, determines are not appropriately authorized or controlled by this general permit; and
- f. storm water discharges to any receiving water specified under 35 Ill. Adm. Code 302.105(d) (6).

C. Authorization.

1. In order for storm water discharges from construction sites to be authorized to discharge under this general permit a discharger must submit a Notice of Intent (NOI) in accordance with the requirements of Part II below, using an NOI form provided by the Agency.
2. Where a new contractor is selected after the submittal of an NOI under Part II below, or where site ownership is transferred, a new Notice of Intent (NOI) must be submitted by the owner in accordance with Part II.
3. Unless notified by the Agency to the contrary, dischargers who submit an NOI and a stormwater pollution prevention plan (SWPPP) in accordance with the requirements of this permit are authorized to discharge storm water from construction sites under the terms and conditions of this permit in 30 days after the date the NOI and SWPPP are received by the Agency.
4. The Agency may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information.

Part II. NOTICE OF INTENT REQUIREMENTS**A. Deadlines for Notification.**

1. To receive authorization under this general permit, a discharger must submit a completed Notice of Intent (NOI) in accordance with Part VI.G (Signatory Requirements) and the requirements of this Part in sufficient time to allow a 30 day review period after the receipt of the NOI by the Agency and prior to the start of construction. The completed NOI may be submitted electronically to the following email address: epa.constilr10swppp@illinois.gov
2. Discharges that were covered by the previous version of ILR10 are automatically covered by this permit. Where discharges associated with construction activities were initially covered under the previous version of ILR10 and are continuing, the Storm Water Pollution Prevention Plan must be updated/revised within 12 months of the effective date of this reissued permit, as necessary to ensure compliance with the provisions of the reissued ILR10. Updating of the SWPPP is not required if construction activities are completed and a Notice of Termination is submitted within 12 months of the effective date of this permit.
3. A discharger may submit an NOI in accordance with the requirements of this Part after the start of construction. In such instances, the Agency may bring an enforcement action for any discharges of storm water associated with industrial activity from a construction site that have occurred on or after the start of construction.

B. Failure to Notify. Dischargers who fail to notify the Agency of their intent to be covered, and discharge storm water associated with construction site activity to Waters of the United States without an NPDES permit are in violation of the Environmental Protection Act and Clean Water Act.

C. Contents of Notice of Intent. The Notice of Intent shall be signed in accordance with Part VI.G (Signatory Requirements) of this permit by all of the entities identified in paragraph 2 below and shall include the following information:

1. The mailing address, and location of the construction site for which the notification is submitted. Where a mailing address for the site is not available, the location can be described in terms of the latitude and longitude of the approximate center of the facility to the nearest 15 seconds, or the nearest quarter section (if the section, township and range is provided) that the construction site is located in;
2. The owner's name, address, telephone number, and status as Federal, State, private, public or other entity;
3. The name, address and telephone number of the general contractor(s) that have been identified at the time of the NOI submittal;
4. The name of the receiving water(s), or if the discharge is through a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the ultimate receiving water(s);
5. The number of any NPDES permits for any discharge (including non-storm water discharges) from the site that is currently authorized by an NPDES permit;
6. A description of the project, detailing the complete scope of the project, estimated timetable for major activities and an estimate of the number of acres of the site on which soil will be disturbed;
7. For projects that have complied with State law on historic preservation and endangered species prior to submittal of the NOI, through coordination with the Illinois Historic Preservation Agency and the Illinois Department of Natural Resources or through fulfillment of the terms of interagency agreements with those agencies, the NOI shall indicate that such compliance has occurred.
8. An electronic copy of the storm water pollution prevention plan that has been prepared for the site in accordance with Part IV of this permit. The electronic copy shall be submitted to the Agency at the following email address: epa.constilr10swppp@illinois.gov

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9. A new notice of intent shall be submitted for any substantial modifications to the project such as: address changes, new contractors, area coverage, additional discharges to Waters of the United States, or other substantial modifications.

D. Where to Submit.

Construction activities which discharge storm water that requires a NPDES permit must use an NOI form provided by the Agency. The applicable fee shall also be submitted. NOIs must be signed in accordance with Part VI.G (Signatory Requirements) of this permit. The NOI form may be submitted to the Agency in any of the following methods:

1. File electronically with digital signature at the following website address:
<http://dataservices.epa.illinois.gov/SWConstructionPermit/bowLogin.aspx>

Registration specific to the permittee is required in order to file electronically.

Submit the appropriate fee with the permit ID number assigned during completion of the NOI to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control, Mail Code #15
Attention: Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

2. Submit complete signed NOI and SWPPP to the following email address: epa.constilr10swppp@illinois.gov. Submit a copy of the signed NOI and appropriate fee by registered or certified mail, return receipt requested, to the Agency at the address above. NOIs and fees that are hand delivered shall be delivered to and receipted for by an authorized person employed in the Permit Section of the Agency's Division of Water Pollution Control.

- E. Additional Notification.** Construction activities that are operating under approved local sediment and erosion plans, land disturbance permits, grading plans, or storm water management plans, in addition to filing copies of the Notice of Intent in accordance with Part D above, shall also submit signed copies of the Notice of Intent to the local agency approving such plans in accordance with the deadlines in Part A above. See Part IV.D.2.d (Approved State or Local Plans). A copy of the NOI shall be sent to the entity holding an active General NPDES Permit No. ILR40 if the permittee is located in an area covered by an active ILR40 permit.

- F. Notice of Termination.** Where a site has completed final stabilization and all storm water discharges from construction activities that are authorized by this permit are eliminated, the permittee must submit a completed Notice of Termination (NOT) that is signed in accordance with Part VI.G (Signatory Requirements) of this permit.

1. The Notice of Termination shall include the following information:
- The mailing address, and location of the construction site for which the notification is submitted. Where a mailing address for the site is not available, the location can be described in terms of the latitude and longitude of the approximate center of the facility to the nearest 15 seconds, or the nearest quarter section (if the section, township and range is provided) that the construction site is located in;
 - The owner's name, address, telephone number, and status as Federal, State, private, public or other entity;
 - The name, address and telephone number of the general contractor(s);
 - The date(s) when construction was completed and the site was stabilized, when all construction materials, waste and waste handling devices have been removed from site and properly disposed, and when all construction equipment have been removed from site, unless intended for long-term use following termination of permit coverage. Any items to remain at the site shall be clearly described in the NOT including the long-term purpose and a brief description indicating how the items will be maintained to protect water quality; and
 - The following certification signed in accordance with Part VI.G (Signatory Requirements) of this permit:

"I certify under penalty of law that all storm water discharges associated with construction site activity from the identified facility that are authorized by NPDES general permit ILR10 have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with construction site activity by the general permit, and that discharging pollutants in storm water associated with construction site activity to Waters of the United States is unlawful under the Environmental Protection Act and Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act."

For the purposes of this certification, elimination of storm water discharges associated with industrial activity means that all disturbed soils at the identified facility have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have otherwise been eliminated.

2. All Notices of Termination are to be sent to the Agency to the mailing address in Part II.D.1, using the form provided by the Agency, or electronically if the permittee submitted a Notice of Intent by electronic means.

Part III. SPECIAL CONDITIONS, MANAGEMENT PRACTICES, AND OTHER NON-NUMERIC LIMITATIONS**A. Prohibition on Non-Storm Water Discharges.**

1. Except as provided in Part I paragraph B.2 and paragraphs 2, 3 or 4 below, all discharges covered by this permit shall be comprised entirely of storm water.
2.
 - a. Except as provided in paragraph b below, discharges of materials other than storm water must be in compliance with a NPDES permit (other than this permit) issued for the discharge.
 - b. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharges is in compliance with Part IV.D.5 (Non-Storm Water Discharges): discharges from fire fighting activities; fire hydrant flushings; waters used to wash vehicles where detergents are not used; waters used to control dust; potable water sources including uncontaminated waterline flushings; landscape irrigation drainages; routine external building washdown which does not use detergents; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; uncontaminated air conditioning condensate; uncontaminated spring water; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.
3. The following non-storm water discharges are prohibited by this permit: concrete and wastewater from washout of concrete (unless managed by an appropriate control), wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps, solvents, or detergents, toxic or hazardous substances from a spill or other release, or any other pollutant that could cause or tend to cause water pollution.
4. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are allowable if managed by appropriate controls.
 - a. Dewatering discharges shall be treated or controlled to minimize discharges of pollutants;
 - b. The discharge shall not include visible floating solids or foam;
 - c. An oil-water separator or suitable filtration device shall be used to treat oil, grease, or other similar products if dewatering water is found to contain these materials;
 - d. To the extent feasible, use vegetated, upland areas of the site to infiltrate dewatering water before discharge;
 - e. Backwash water (water used to backwash/clean any filters used as part of stormwater treatment) must be properly treated or hauled off-site for disposal; and
 - f. Dewatering treatment devices shall be properly maintained.

B. Discharges into Receiving Waters with an Approved Total Maximum Daily Load (TMDL):

Discharges to waters for which there is a TMDL allocation for sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation) are not eligible for coverage under this permit unless the owner/operator develops and certifies a SWPPP that is consistent with wasteload allocations in the approved TMDL. To be eligible for coverage under this general permit, operators must incorporate into their SWPPP any conditions and/or Best Management Practices applicable to their discharges necessary for consistency with the TMDL within any timeframes established in the TMDL. If a specific numeric waste load allocation has been established that would apply to the project's discharges, the operator must incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation.

Please refer to the Agency website at: <http://www.epa.illinois.gov/topics/water-quality/watershed-management/tmdls/reports/index>

- C. In the absence of information demonstrating otherwise, it is expected that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards. If at any time you become aware, that discharges are not being controlled as necessary to meet applicable water quality standards, you must take corrective action as required in Part IV.D.5 of this Permit. Discharges covered by this permit, alone or in combination with other sources, shall not cause or contribute to a violation of any applicable water quality standard.

Part IV. STORM WATER POLLUTION PREVENTION PLANS

A storm water pollution prevention plan shall be developed for each construction site covered by this permit. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction site activity from the facility. In addition, the plan shall describe and ensure the implementation of best management practices which will be used to reduce the pollutants in storm water discharges associated with construction site activity and to assure compliance with the terms and conditions of this permit. The permittee must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

A. Deadlines for Plan Preparation and Compliance.

The plan shall:

1. Be completed prior to the start of the construction activities to be covered under this permit and submitted electronically to the Agency at the time the Notice of Intent is submitted; and
2. Provide for compliance with the terms and schedules of the plan beginning with the initiation of construction activities.

B. Signature, Plan Review and Notification.

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1. The plan shall be signed in accordance with Part VI.G (Signatory Requirements), and be retained at the construction site which generates the storm water discharge in accordance with Part VI.E (Duty to Provide Information) of this permit. If an on-site location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of the construction site.
 2. Prior to commencement of construction, the permittee shall provide the plan to the Agency.
 3. The permittee shall make plans available upon request from this Agency or a local agency approving sediment and erosion plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system. A list of permitted municipal separate storm sewer systems is available at: <http://www.epa.state.il.us/water/permits/storm-water/ms4-status-report.pdf>
 4. The Agency may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Such notification shall identify those provisions of the permit which are not being met by the plan, and identify which provisions of the plan require modifications in order to meet the minimum requirements of this part. Within 7 days from receipt of notification from the Agency, the permittee shall make the required changes to the plan and shall submit to the Agency a written certification that the requested changes have been made. Failure to comply shall terminate authorization under this permit.
 5. A copy of the letter of notification of coverage along with the General NPDES Permit for Storm Water Discharges from Construction Site Activities or other indication that storm water discharges from the site are covered under an NPDES permit shall be posted at the site in a prominent place for public viewing (such as alongside a building permit).
 6. All storm water pollution prevention plans and all completed inspection forms/reports required under this permit are considered reports that shall be available to the public at any reasonable time upon request. However, the permittee may claim any portion of a storm water pollution prevention plan as confidential in accordance with 40 CFR Part 2.
- C. **Keeping Plans Current.** The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to Waters of the United States and which has not otherwise been addressed in the plan or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under paragraph D.2 below, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity. In addition, the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the storm water pollution prevention plan. Amendments to the plan may be reviewed by the Agency in the same manner as Part IV.B above. The SWPPP and site map must be modified within 7 days for any changes to construction plans, stormwater controls or other activities at the site that are no longer accurately reflected in the SWPPP. Any revisions of the documents for the storm water pollution prevention plan shall be kept on site at all times.
- D. **Contents of Plan.** The storm water pollution prevention plan shall include the following items:
1. **Site Description.** Each plan shall provide a description of the following:
 - a. A description of the nature of the construction activity or demolition work;
 - b. A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils, on-site or off-site storage of materials);
 - c. An estimate of the total area of the site and the total area of the site that is expected to be disturbed by clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils and storage of materials, or other activities;
 - d. An estimate of the runoff coefficient of the site after construction activities are completed and existing data describing the soil or the quality of any discharge from the site;
 - e. A site map indicating drainage patterns and approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking, areas of soil disturbance, the location of major structural and nonstructural controls identified in the plan, the location of areas where stabilization practices are expected to occur, locations of on-site or off-site soil stockpiling or material storage, surface waters (including wetlands), and locations where storm water is discharged to a surface water; and
 - f. The name of the receiving water(s) and the ultimate receiving water(s), and areal extent of wetland acreage at the site.
 2. **Controls.** Each plan shall include a description of appropriate controls that will be implemented at the construction site and any off-site stockpile or storage area unless already authorized by a separate NPDES permit. The plan shall include details or drawings that show proper installation of controls and BMPs. The Illinois Urban Manual <http://www.aiswcd.org/illinois-urban-manual/> or other similar documents shall be used for developing the appropriate management practices, controls or revisions of the plan. The plan will clearly describe for each major activity identified in paragraph D.1 above, appropriate controls and the timing during the construction process that the controls will be implemented. For example, perimeter controls for one portion of the site will be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls will be actively maintained and/or repaired until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls will be removed after final stabilization. The description of controls shall address as appropriate the following minimum components:
 - a. **Erosion and Sediment Controls.** The permittee shall design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed and maintained to:
 - (i) Control storm water volume and velocity within the site to minimize soil erosion;
 - (ii) Control storm water discharges, including both peak flowrates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
 - (iii) Minimize the amount of soil exposed during construction activity through the use of project phasing or other appropriate techniques;
 - (iv) Minimize the disturbance of steep slopes;
 - (v) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address

- factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
- (vi) Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible; and
 - (vii) Minimize soil compaction and, unless infeasible, preserve topsoil.
 - (viii) Minimize sediment track-out. Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out occurs on a non-business day. Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance, storm drain inlet, or water of the U.S.
 - (ix) Minimize dust. On areas of exposed soils, minimize the generation of dust through the appropriate application of water or other dust suppression techniques.
- b. **Stabilization Practices.** The storm water pollution prevention plan shall include a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where practicable and that disturbed portions of the site are stabilized. Stabilization practices may include: temporarily seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, staged or staggered development, and other appropriate measures. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated, shall be included in the plan. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas must be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible but not later than 14 days from the initiation of stabilization work in an area. Exceptions to these time frames are specified as provided in paragraphs (i) and (ii) below:
- (i) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
 - (ii) On areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method can be used. Temporary stabilization techniques and materials shall be described in the SWPPP.
 - (iii) Stabilization is not required for exit points at linear utility construction sites that are used only episodically and for very short durations over the life of the project, provided other exit point controls are implemented to minimize sediment track-out.
- c. **Structural Practices.** A description of structural practices utilized 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 silt fences, earth dikes, drainage swales, sediment traps, check dams, 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. Structural practices should be placed on upland soils to the degree practicable. The installation of these devices may be subject to Section 404 of the CWA.
- (i) The following design requirements apply to sediment basins if such structural practices will be installed to reduce sediment concentrations in storm water discharges:
 - a. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharge.
 - b. Prevent erosion of the sediment basin using stabilization controls (e.g., erosion control blankets), at the inlet and outlet using erosion controls and velocity dissipation devices:
 - c. Sediment basins shall be designed to facilitate maintenance, including sediment removal from the basins, as necessary.
 - (ii) The following requirements apply to protecting storm drain inlets:
 - a. Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries stormwater flow from your site to a water of the U.S., provided you have authority to access the storm drain inlet; and
 - b. Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible.
- d. **Use of Treatment Chemicals.** Identify the use of all polymer flocculants or treatment chemicals at the site. Dosage of treatment chemicals shall be identified along with any information from any Material Safety Data Sheet. Describe the location of all storage areas for chemicals. Include any information from the manufacturer's specifications. Treatment chemicals must be stored in areas where they will not be exposed to precipitation. The SWPPP must describe procedures for use of treatment chemicals and staff responsible for use/application of treatment chemicals must be trained on the established procedures.
- e. **Best Management Practices for Impaired Waters.** For any site which discharges directly to an impaired water identified on the Agency's website for 303(d) listing for suspended solids, turbidity, or siltation the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event. If required by federal regulations or the Illinois Urban Manual, the storm water pollution prevention plan shall adhere to a more restrictive design criteria. Please refer to the Agency's website at: (<http://www.epa.illinois.gov/topics/water-quality/watershed-management/tmdls/303d-list/index>)
- f. **Pollution Prevention.** The permittee shall design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:
- (i) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
 - (ii) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water. Minimization to exposure is not required for any products or materials where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or when exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use);
 - (iii) Minimize the exposure of fuel, oil, hydraulic fluid and other petroleum products by storing in covered areas or containment areas; and

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- (iv) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

g. Other Controls.

- (i) **Waste Disposal.** No solid materials, including building materials, shall be discharged to Waters of the United States, except as authorized by a Section 404 permit.
- (ii) The plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.
- (iii) For construction sites that receive concrete or asphalt from off-site locations, the plan must identify and include appropriate controls and measures to reduce or eliminate discharges from these activities.
- (iv) The plan shall include spill response procedures and provisions for reporting if there are releases in excess of reportable quantities.
- (v) The plan shall ensure that regulated hazardous or toxic waste must be stored and disposed in accordance with any applicable State and Federal regulations.

h. Best Management Practices for Post-Construction Storm Water Management. Describe the measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the CWA. This permit only addresses the installation of storm water management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization. Permittees are responsible for only the installation and maintenance of storm water management measures prior to final stabilization of the site, and are not responsible for maintenance after storm water discharges associated with industrial activity have been eliminated from the site.

- (i) While not mandatory, it is advisable that the permittee consider including in its storm water pollution prevention plan and design and construction plans methods of post-construction storm water management to retain the greatest amount of post-development storm water run-off practicable, given the site and project constraints. 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 onsite; and sequential systems (which combine several practices). Technical information on many post-construction storm water management practices is included in the Illinois Urban Manual (2017).

The storm water pollution prevention plan shall include an explanation of the technical basis used to select the practices to control pollution where post-construction flows will exceed predevelopment levels.

- (ii) Velocity dissipation devices shall 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).
- (iii) Unless otherwise specified in the Illinois Urban Manual (2017), the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event.

i. Approved State or Local Plans.

- (i) The management practices, controls and other provisions contained in the storm water pollution prevention plan must be at least as protective as the requirements contained in the Illinois Urban Manual, (2017). Construction activities which discharge storm water must include in their storm water pollution prevention plan procedures and requirements specified in applicable sediment and erosion control plans or storm water management plans approved by local officials. Requirements specified in sediment and erosion control plans or site permits or 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 this permit, incorporated by reference and are enforceable under this permit. The plans shall include all requirements of this permit and include more stringent standards required by any local approval. This provision does not apply to provisions of master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for the construction site.
- (ii) Dischargers seeking alternative permit requirements are not authorized by this permit and shall submit an individual permit application in accordance with 40 CFR 122.26 at the address indicated in Part II.D (Where to Submit) of this permit, along with a description of why requirements in approved local plans or permits should not be applicable as a condition of an NPDES permit.

j. Natural Buffers. For any stormwater discharges from construction activities within 50 feet of a Waters of the United States, except for activities for water-dependent structures authorized by a Section 404 permit, the permittee shall:

- (i) Provide a 50-foot undisturbed natural buffer between the construction activity and the Waters of the United States; or
- (ii) Provide additional erosion and sediment controls within that area.

3. Maintenance.

- a. The plan shall include a description of procedures to maintain in good and effective operating conditions, all erosion and sediment control measures and other Best Management Practices, including vegetation and other protective measures identified in the Storm Water Pollution Prevention Plan.
- b. Where a basin has been installed to control sediment during construction activities, the Permittees shall keep the basin(s) in effective operating condition and remove accumulated sediment as necessary. Sediment shall be removed in accordance with the Illinois Urban Manual (2017) or more frequently. Maintenance of any sediment basin shall include a post construction clean out of accumulated sediment if the basin is to remain in place.
- c. Other erosion and sediment control structures shall be maintained and cleaned as necessary to keep structure(s) in effective operating condition, including removal of excess sediment as necessary.

4. **Inspections.** Qualified personnel (provided by the permittee) shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm or by the end of the following business or work day that is 0.50 inches or greater. Qualified personnel means a person knowledgeable in the principles and practices of erosion and sediment control measures, such as a licensed Professional Engineer (P.E.), a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Erosion Sediment and Storm Water Inspector (CESSWI), a Certified Stormwater Inspector (CSI) or other knowledgeable person who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activities. Areas inaccessible during inspections due to flooding or other unsafe conditions shall be inspected within 72 hours of becoming accessible.
- a. Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions (when ground and/or air temperatures are at or below 32 degrees Fahrenheit). Weekly inspections will recommence when construction activities are conducted, or if there is a 0.50 inches or greater rain event, or a discharge due to snowmelt occurs.
 - b. Disturbed areas, areas used for storage of materials that are exposed to precipitation and all areas where stormwater typically flows within the site shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. All locations where stabilization measures have been implemented shall be observed to ensure that they are still stabilized. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.
 - c. Based on the results of the inspection, the description of potential pollutant sources identified in the storm water pollution prevention plan in accordance with Part IV.D.1 (Site Description) of this permit and the pollution prevention control measures identified in the plan in accordance with Part IV.D.2 (Controls) of this permit shall be revised as appropriate as soon as practicable after such inspection to minimize the potential for such discharges. Such modifications shall provide for timely implementation of any changes to the plan and pollution prevention control measures within 7 calendar days following the inspection.
 - d. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph b above shall be made and retained as part of the storm water pollution prevention plan for at least three years from the date that the permit coverage expires or is terminated. All inspection reports shall be retained at the construction site. The report shall be signed in accordance with Part VI.G (Signatory Requirements) of this permit. Any flooding or other unsafe conditions that delay inspections shall be documented in the inspection report.
 - e. The permittee shall notify the appropriate Agency Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax (see Attachment A) within 24 hours of any incidence of noncompliance for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit. The permittee shall complete and submit within 5 days an "Incidence of Noncompliance" (ION) report for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit. Submission shall be on forms provided by the Agency and 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. Corrective actions must be undertaken immediately to address the identified non-compliance issue(s).
 - f. All reports of noncompliance shall be signed by a responsible authority as defined in Part VI.G (Signatory Requirements).
 - g. After the initial contact has been made with the appropriate Agency Field Operations Section Office, all reports of noncompliance shall be mailed to the Agency at the following address:

Illinois Environmental Protection Agency
 Division of Water Pollution Control
 Compliance Assurance Section
 1021 North Grand Avenue East
 Post Office Box 19276
 Springfield, Illinois 62794-9276

5. **Corrective Actions.** You must take corrective action to address any of the following conditions identified at your site:
- a. A stormwater control needs repair or replacement; or
 - b. A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or
 - c. Your discharges are causing an exceedance of applicable water quality standards; or
 - d. A prohibited discharge has occurred.

Corrective Actions shall be completed as soon as possible and documented within 7 days in an Inspection Report or report of noncompliance. If it is infeasible to complete the installation or repair within seven (7) calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7-day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7-day timeframe.

6. **Non-Storm Water Discharges.** Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.
- E. **Additional requirements for storm water discharges from industrial activities other than construction, including dedicated asphalt plants, and dedicated concrete plants.** This permit may only authorize any storm water discharge associated with industrial activity from a construction site that is mixed with a storm water discharge from an industrial source other than construction, where:

1. The industrial source other than construction is located on the same site as the construction activity;
2. Storm water discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and
3. Storm water discharges associated with industrial activity from the areas of the site where industrial activity other than construction are occurring (including storm water discharges from dedicated asphalt plants [other than asphalt emulsion facilities] and dedicated concrete plants) are in compliance with the terms, including applicable NOI or application requirements, of a different NPDES general permit or individual permit authorizing such discharges.

F. Contractors.

1. The storm water pollution prevention plan must clearly identify for each measure identified in the plan, the contractor(s) or subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the plan must sign a copy of the certification statement in paragraph 2 below in accordance with Part VI.G (Signatory Requirements) of this permit. All certifications must be included in the storm water pollution prevention plan except for owners that are acting as contractors.
2. **Certification Statement.** All contractors and subcontractors identified in a storm water pollution prevention plan in accordance with paragraph 1 above shall sign a copy of the following certification statement before conducting any professional service at the site identified in the storm water pollution prevention plan:

"I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification."

The certification must include the name and title of the person providing the signature in accordance with Part VI.G of this permit: the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Part V. RETENTION OF RECORDS

- A. The permittee shall retain copies of storm water pollution prevention plans and all reports and notices required by this permit, records of all data used to complete the Notice of Intent to be covered by this permit and the Agency Notice of Permit Coverage letter for a period of at least three years from the date that the permit coverage expires or is terminated. This period may be extended by request of the Agency at any time.
- B. The permittee shall retain a copy of the storm water pollution prevention plan and any revisions to said plan required by this permit at the construction site from the date of project initiation to the date of final stabilization. Any manuals or other documents referenced in the SWPPP shall also be retained at the construction site.

Part VI. STANDARD PERMIT CONDITIONS

- A. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Illinois Environmental Protection Act and the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Failure to obtain coverage under this permit or an individual permit for storm water releases associated with construction activities is a violation of the Illinois Environmental Protection Act and the CWA.
- B. **Continuation of the Expired General Permit.** This permit expires five years from the date of issuance. An expired general permit continues in force and effect until a new general permit or an individual permit is issued. Only those construction activities authorized to discharge under the expiring general permit are covered by the continued permit.
- C. **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. **Duty to Provide Information.** The permittee shall furnish within a reasonable time to the Agency or local agency approving sediment and erosion control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system, any information which is requested to determine compliance with this permit. Upon request, the permittee shall also furnish to the Agency or local agency approving sediment and erosion control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system, copies of all records required to be kept by this permit.
- F. **Other Information.** When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Agency, he or she shall promptly submit such facts or information.
- G. **Signatory Requirements.** All Notices of Intent, storm water pollution prevention plans, reports, certifications or information either submitted to the Agency or the operator of a large or medium municipal separate storm sewer system, or that this permit requires be maintained by the permittee, shall be signed.

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1. All Notices of Intent shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) any person authorized to sign documents that has been assigned or delegated said authority in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. All reports required by the permit and other information requested by the Agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Agency.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
 - c. **Changes to Authorization.** If an authorization under Part I.C (Authorization) is no longer accurate because a different individual or position has responsibility for the overall operation of the construction site, a new authorization satisfying the requirements of Part I.C must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
 - d. **Certification.** Any person signing documents under this Part shall make the following certification:

"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."
- H. **Penalties for Falsification of Reports.** Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both. Section 44(j)(4) and (5) of the Environmental Protection Act provides that any person who knowingly makes any false statement, representation, or certification in an application form, or form pertaining to a NPDES permit commits a Class A misdemeanor, and in addition to any other penalties provided by law is subject to a fine not to exceed \$10,000 for each day of violation.
- I. **Penalties for Falsification of Monitoring Systems.** The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the CWA. The Environmental Protection Act provides that any person who knowingly renders inaccurate any monitoring device or record required in connection with any NPDES permit or with any discharge which is subject to the provisions of subsection (f) of Section 12 of the Act commits a Class A misdemeanor, and in addition to any other penalties provided by law is subject to a fine not to exceed \$10,000 for each day of violation.
- J. **Oil and Hazardous Substance Liability.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the CWA.
- K. **Property Rights.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- L. **Severability.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
- M. **Transfers.** This permit is not transferable to any person except after notice to the Agency. The Agency may require the discharger to apply for and obtain an individual NPDES permit as stated in Part I.C (Authorization).
- N. **Requiring an Individual Permit or an Alternative General Permit.**
 1. The Agency may require any person authorized by this permit to apply for and/or obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the Agency to take action under this paragraph. Where the Agency requires a discharger authorized to discharge under this permit to apply for an individual NPDES permit, the Agency shall notify the discharger in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of the individual NPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Applications shall be submitted to the Agency indicated in Part II.D (Where to Submit) of this permit. The Agency may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual NPDES permit application as required by the Agency under this paragraph, then the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified by the Agency for application submittal. The Agency may require an individual NPDES permit based on:
 - a. information received which indicates the receiving water may be of particular biological significance pursuant to 35 Ill. Adm. Code 302.105(d)(6);
 - b. whether the receiving waters are impaired waters for suspended solids, turbidity or siltation as identified by the Agency's 303(d) listing;

- c. size of construction site, proximity of site to the receiving stream, etc.

The Agency may also require monitoring of any storm water discharge from any site to determine whether an individual permit is required.

2. Any discharger authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to the Agency at the address indicated in Part II.D (Where to Submit) of this permit. The request may be granted by issuance of any individual permit or an alternative general permit if the reasons cited by the permittee are adequate to support the request.
3. When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the discharger is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to a discharger otherwise subject to this permit or the discharger is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee remains in effect, unless otherwise specified by the Agency.
- O. **State/Environmental Laws.** No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.
- P. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all construction activities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.
- Q. **Inspection and Entry.** The permittee shall allow the IEPA, or an authorized representative upon presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated construction activity is located or conducted, or where records must be kept under the conditions of this permit;
 2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.
- R. **Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- S. **Bypasses and Upsets.** The provisions of 40 CFR Section 122.41(m) & (n) are applicable and are hereby incorporated by reference.

Part VII. REOPENER CLAUSE

- A. If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with industrial activity covered by this permit, the discharger may be required to obtain an individual permit or an alternative general permit in accordance with Part I.C (Authorization) of this permit or the permit may be modified to include different limitations and/or requirements.
- B. Permit modification or revocation will be conducted according to provisions of 35 Ill. Adm. Code, Subtitle C, Chapter I and the provisions of 40 CFR 122.62, 122.63, 122.64 and 124.5 and any other applicable public participation procedures.
- C. The Agency will reopen and modify this permit under the following circumstances:
1. the U.S. EPA amends its regulations concerning public participation;
 2. a court of competent jurisdiction binding in the State of Illinois or the 7th Circuit Court of Appeals issues an order necessitating a modification of public participation for general permits; or
 3. to incorporate federally required modifications to the substantive requirements of this permit.

Part VIII. DEFINITIONS

"Agency" means the Illinois Environmental Protection Agency.

"Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Commencement of Construction or Demolition Activities" The initial disturbance of soils associated with clearing, grading, or excavating activities or other construction or demolition activities.

"Construction Activities" Earth disturbing activities, such as clearing, grading and excavation of land. For purposes of this permit, construction activities also means construction site, construction site activities, or site. Construction activities also include any demolition activities at a site.

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"Contractor" means a person or firm that undertakes a contract to provide materials or labor to perform a service or do a job related to construction of the project authorized by this permit,

"CWA" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.).

"Dedicated portable asphalt plant" A portable asphalt plant that is located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR 443.

"Dedicated portable concrete plant" A portable concrete plant that is located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

"Dedicated sand or gravel operation" An operation that produces sand and/or gravel for a single construction project.

"Director" means the Director of the Illinois Environmental Protection Agency or an authorized representative.

"Final Stabilization" means that all soil disturbing activities at the site have been completed, and either of the two following conditions are met:

- (i) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
- (ii) Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

For individual lots in residential construction, final stabilization means that either:

- (i) The homebuilder has completed final stabilization as specified above, or
- (ii) The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

"Large and Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either:

- (i) Located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 CFR Part 122); or
- (ii) Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR Part 122); or
- (iii) Owned or operated by a municipality other than those described in paragraph (i) or (ii) and that are designated by the Director as part of the large or medium municipal separate storm sewer system.

"NOI" means notice of intent to be covered by this permit (see Part II of this permit.)

"NOT" means notice of termination of coverage by this permit (See Part II of this permit.)

"Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in subparagraphs (l) through (x) of this subsection, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in subparagraph (xi), the term includes only storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally or municipally owned or operated that meet the description of the facilities listed in this paragraph (i)-(xi)) include those facilities designated under 40 CFR 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

- (i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph);
- (ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28, 29, 311, 32, 33, 3441, 373;

- (iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;
- (iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;
- (v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;
- (vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;
- (vii) Steam electric power generating facilities, including coal handling sites;
- (viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42, 44, and 45 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under subparagraphs (i)-(vii) or (ix)-(xi) of this subsection are associated with industrial activity;
- (ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;
- (x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than one acre of total land area which are not part of a larger common plan of development or sale unless otherwise designated by the Agency pursuant to Part I.B.1.
- (xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (i)-(x)).

"Waters" mean all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon the State of Illinois, except that sewers and treatment works are not included except as specially mentioned; provided, that nothing herein contained shall authorize the use of natural or otherwise protected waters as sewers or treatment works except that in-stream aeration under Agency permit is allowable.

"Work day" for the purpose of this permit, a work day is any calendar day on which construction activities will take place.

Attachment A

Division of Water Pollution Control
Regions by CountyRockford Region (FOS 1) Manager 815/987-7760

Boone Lee	Bureau Ogle	Carroll Putnam	DeKalb Stephenson	Jo Daviess Whiteside	LaSalle Winnebago
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Des Plaines Region (FOS 2) Manager 847/294-4000

Cook Lake	DuPage McHenry	Grundy Will	Kane	Kankakee	Kendall
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Peoria Region (FOS 3) Manager 309/671-3022

Fulton McDonough Warren	Hancock Mercer Woodford	Henderson Peoria	Henry Rock Island	Knox Stark	Marshall Tazewell
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Champaign Region (FOS 4) Manager 217/278-5800

Champaign Douglas Livingston Vermilion	Clark Edgar Macon	Coles Effingham McLean	Crawford Ford Moultrie	Cumberland Iroquois Piatt	DeWitt Jasper Shelby
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Springfield Region (FOS 5) Manager 217/557-8761

Adams Jersey Morgan	Brown Logan Pike	Calhoun Macoupin Sangamon	Cass Mason Schuyler	Christian Menard Scott	Green Montgomery
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Collinsville Region (FOS 6) Manager 618/346-5120

Bond Randolph	Clinton St. Clair	Fayette Washington	Madison	Marion	Monroe
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Marion Region (FOS 7) Manager 618/993-7200

Alexander Hardin Perry Wabash	Clay Jackson Pope Wayne	Edwards Jefferson Pulaski White	Franklin Johnson Richland Williamson	Gallatin Lawrence Saline	Hamilton Massac Union
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**Attachment H
Standard Conditions**

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8-Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

(9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) **Monitoring and records.**

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
- (c) Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- (d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.

- (a) **Application.** All permit applications shall be signed as follows:
 - (1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
- (b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a

person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph (a); and
 - (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
 - (3) The written authorization is submitted to the Agency.
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

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 gather and evaluate 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.

(12) **Reporting requirements.**

- (a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:
 - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
 - (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
 - (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- (b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Transfers.** This permit is not transferable to any person except after notice to the Agency.
- (d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

- (e) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
 - (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
 - (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - (2) Any upset which exceeds any effluent limitation in the permit.
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.
The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.
- (g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).
- (h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Bypass.**
- (a) Definitions.
 - (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).
- (c) Notice.
- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).
- (d) Prohibition of bypass.
- (1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
 - (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The permittee submitted notices as required under paragraph (13)(c).
 - (2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).
- (14) **Upset.**
- (a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
 - (b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - (c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
 - (4) The permittee complied with any remedial measures required under paragraph (4).
 - (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

- (15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
- (a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
- (b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:
- (1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
 - (3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - (4) The level established by the Agency in this permit.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
 - (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
 - (21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
 - (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
 - (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.
 - (24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
 - (25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
 - (26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
 - (27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.
 - (28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.



Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

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 professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 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 (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Lake Street Streetscape Work Office Phone Number, if available: 312 201 7474

Physical Site Location (address, including number and street):
Lake Street between Harlem Avenue and Euclid.

City: Oak Park State: IL Zip Code: _____

County: Cook Township: _____

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 41.888633 Longitude: -87.803029
(Decimal Degrees) (-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: Oak Park

Name: _____

Street Address: 201 South Boulevard

Street Address: _____

PO Box: _____

PO Box: _____

City: Oak Park State: IL

City: _____ State: _____

Zip Code: 60302 Phone: 708-358-5722

Zip Code: _____ Phone: _____

Contact: Bill McKenna, Village Engineer

Contact: _____

Email, if available: mckenna@oak-park.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: Lake Street Streetscape Work

Latitude: 41.888633 Longitude: -87.803029

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

See attached description. A preliminary environmental site assessment was conducted in 2016 that identified potentially impacted properties (PIP). Potential contaminants of concern (COC) were determined for each PIP and soil borings were installed to the depth of proposed work and samples for COCs were obtained from each soil boring. (see discussion attached).

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

Results are attached for soil borings from proposed work area including sampling for COCs at all soil borings and results for target analyte list (TAL) compounds and pH that were compared to MAC criteria. All results meet MAC criteria. Confirmatory pH samples will be collected from excavated soil and must meet criteria.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Thomas Hahne (name of licensed professional engineer or geologist) certify under penalty of law that the 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. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

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))

Company Name: Tetra Tech

Street Address: 37th Floor, 1 South Wacker Drive

City: Chicago State: IL Zip Code: 60606

Phone: 312 201 7474

Thomas Hahne

Printed Name:

11/5/2018
Date:

SEE ATTACHED
P.E. or L.P.G. Seal:

Licensed Professional Engineer or Licensed Professional Geologist Signature:



ATTACHMENT TO FORM LPC-663 FOR OAK PARK STREETScape PROJECT

CERTIFICATION – PROFESSIONAL GEOLOGIST ILLINOIS, LICENSE NUMBER: 196000203

I CERTIFY UNDER OF PENALTY OF LAW THAT I AM A PROFESSIONAL GEOLOGIST IN GOOD STANDING WITH THE STATE OF ILLINOIS. ATTACHED IS A PRINTOUT FROM THE ILLINOIS DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGISTRATION LICENSE LOOKUP AND DATED NOVEBER 5, 2018.

A large, handwritten signature in blue ink, appearing to read 'Thomas Hahne', written across the middle of the page.

SIGNATURE:

THOMAS HAHNE, LPG

NO: 196000203

NOTARIZED, THIS 5TH DAY OF NOVEMBER 2018

A handwritten signature in blue ink, appearing to read 'Carole Ramsden', located below the notarization date.





Illinois Department of
Financial and
Professional
Regulation

Lookup Detail View

Contact

Contact Information

Name	City/State/Zip	DBA
TOM W HAHNE	BULL VALLEY, IL 60097	

License

License Information

License Number	Description	Status	First Effective Date	Effective Date	Expiration Date	Ever Disciplined
196000203	LICENSED PROFESSIONAL GEOLOGIST	ACTIVE	10/01/1997	01/26/2017	03/31/2019	N

Generated on: 11/5/2018 10:05:41 AM

WATERSHED MANAGEMENT PERMIT
METROPOLITAN WATER RECLAMATION DISTRICT
OF GREATER CHICAGO
111 EAST ERIE, CHICAGO, ILLINOIS, 60611

Watershed Management Permit No. _____

LOCAL SEWER SYSTEMS SECTION

18-365

19 AUG 22 15 www.mwrdd.org

INSTRUCTIONS FOR COMPLETING PERMIT FORM: Submit two original signed copies of this permit application (nine pages) and any required WMO schedules listed below. Do not leave any blank spaces; use "X" for checking applicable information. Also submit two copies of location map and plans. Address all correspondence to the Local Sewer Systems Section; for any inquiries or assistance, telephone (312) 751-3255.

NAME AND LOCATION:

Name of Project (as shown on plans): Lake Street - IL Route 43 to Euclid Avenue - Streetscape Project

Location of Project (street address or with respect to two major streets): Lake Street, from IL Route 43 (Harlem Ave) to Euclid Ave

Municipality (Township, if unincorporated) Village of Oak Park

Section 17, Township 39 N, Range 13 E

PIN (include all PINs for project, use additional sheets if more than two): - - - - -

Check type of sewer area for project: Combined Sewer Area Separate Sewer Area

- | | | |
|---|----------------------------------|---------------|
| <input checked="" type="checkbox"/> Project Information (Required in all cases) | WMO Schedule A | (Page 5 of 9) |
| <input checked="" type="checkbox"/> Sewer Summary (Required in all cases) | WMO Schedule B | (Page 6 of 9) |
| <input checked="" type="checkbox"/> Sewer Connections (Required in all cases) | WMO Schedule C | (Page 7 of 9) |
| <input type="checkbox"/> Detention & Stormwater Management Facilities (WMO) | WMO Schedule D | (3 Pages) |
| <input type="checkbox"/> Detention & Stormwater Management Facilities (Legacy) | WMO Schedule D _{Legacy} | (4 Pages) |
| <input type="checkbox"/> Lift Station and/or Force Main | WMO Schedule E | (2 Pages) |
| <input type="checkbox"/> Characteristics of Waste Discharge | WMO Schedule F | (2 Pages) |
| <input type="checkbox"/> Treatment or Pretreatment Facilities | WMO Schedule G | (2 Pages) |
| <input type="checkbox"/> Hazard Areas (Floodplain / Floodway /Riparian Areas) | WMO Schedule H | (2 Pages) |
| <input type="checkbox"/> Affidavit Relative to Compliance with Article 7 | WMO Schedule J | (1 Page) |
| <input type="checkbox"/> Affidavit of Disclosure of Property Interest (Required in all cases) | WMO Schedule K | (2 Pages) |
| <input type="checkbox"/> Notice of Requirements for Storm Water Detention | WMO Schedule L | (2 Pages) |
| <input type="checkbox"/> Current Survey of Property Interests (Required in all cases) | Exhibit A | |
| <input type="checkbox"/> Outfall, Direct Connection, District Owned or Leased Property | WMO Schedule O | (1 Page) |
| <input type="checkbox"/> Soil Erosion and Sediment Control | WMO Schedule P | (2 Pages) |
| <input type="checkbox"/> Recording and Maintenance | WMO Schedule R | (2 Pages) |
| <input type="checkbox"/> Recording Exhibit | Exhibit R | |
| <input type="checkbox"/> Wetlands and Wetland Buffer Areas | WMO Schedule W | (2 Pages) |

Refer to Table 1 of § 201 of Article 2 of Watershed Management Ordinance for applicable Permitting Authority.

OTHER DOCUMENTS: Indicate title, number of pages and originator _____
Lake Street - IL Route 43 to Euclid Avenue - Streetscape Project Plans (abridged) & Project Special Provisions (abbreviated)

NOTE: ATTACH FEE PAYMENT VOUCHER AND PAYMENT IF APPLICABLE

DISTRICT USE ONLY

Application received: Nov 28, 2018 WMO Permit issued: OCT 28 2019 WRP: Streckney

Issued by: DISTRICT Authorized Municipality

APPROVED

GENERAL CONDITIONS OF THE PERMIT

1. **Definitions.** The definitions of Appendix A of the Watershed Management Ordinance are incorporated into this Watershed Management Permit by reference. Additionally, the following words and phrases shall be defined as follows:
 - a) **Building and Occupancy Permit.** Building and Occupancy Permit issued by the Municipality.
 - b) **Design Engineer.** A Professional Engineer who prepares plans and specifications for the project, and signs the Watershed Management Permit Application.
 - c) **Inspection Engineer.** A Professional Engineer who inspects the development to ensure compliance with the design plans, specifications, a Watershed Management Permit, and the Watershed Management Ordinance.
 - d) **Permit.** Watershed Management Permit.
 - e) **General Conditions.** General Conditions contained in a Watershed Management Permit.
 - f) **Special Conditions.** Special conditions of this Watershed Management Permit.
2. **Adequacy of Design.** The schedules, plans, specifications and all other data and documents submitted for this Permit are made a part hereof. The Permit shall not relieve the Design Engineer of the sole responsibility for the adequacy of the design. The issuance of this Permit shall not be construed as approval of the concept or construction details of the proposed facilities and shall not absolve the Permittee, Co-Permittee or Design Engineer of their respective responsibilities.
3. **Joint Construction and Operation Permits.** Unless otherwise stated by the Special Conditions, the issuance of this Permit shall be a joint construction and operation permit, provided that the Permittee or Co-Permittee has complied with all General and Special Conditions.
4. **Allowable Discharges.** Discharges into the Sanitary Sewer system constructed under this Permit shall consist of sanitary Sewage only. Unless otherwise stated by the Special Conditions, there shall be no discharge of industrial wastes under this Permit. Stormwater shall not be permitted to enter the Sanitary Sewer system. Without limiting the general prohibition of the previous sentence, roof and footing drains shall not be connected to the Sanitary Sewer system.
5. **Construction Inspection.** All erosion and sediment control facilities, Stormwater Facilities, Detention Facilities, and Qualified Sewer Construction shall be inspected and approved by an Inspection Engineer acting on behalf of the Permittee or the Owner of the project, or by a duly authorized and competent representative of the Inspection Engineer. No sewer trenches shall be backfilled except as authorized by the Inspection

Engineer after having inspected and approved the sewer installation.

6. **Maintenance.** Stormwater Facilities, Detention Facilities, Qualified Sewer Construction, Sanitary Sewer lines, systems or facilities constructed hereunder or serving the facilities constructed hereunder shall be properly maintained and operated at all times in accordance with all applicable requirements. It is understood that the responsibility for maintenance shall run as a joint and several obligation against the Permittee, the Co-Permittee, the property served, the Owner and the operator of the facilities, and said responsibility shall not be discharged nor in any way affected by change of ownership of said property, unless the District has authorized assignment of the permit.
7. **Indemnification.** The Permittee shall be solely responsible for and shall defend, indemnify and hold harmless the Metropolitan Water Reclamation District of Greater Chicago ("District", "MWRD", or "MWRDGC") and its Commissioners, officers, employees, servants, and agents from liabilities of every kind, including losses, damages and reasonable costs, payments and expenses (such as, but not limited to, court costs and reasonable attorneys' fees and disbursements), claims, demands, actions, suits, proceedings, judgments or settlements, any or all of which are asserted by any individual, private entity, or public entity against the District and its Commissioners, officers, employees, servants, or agents and arise out of or are in any way related to the issuance of this Permit. Without limiting the generality of the preceding sentence, the provisions of this paragraph shall extend to indemnify and hold harmless the District and its Commissioners, officers, employees, servants, and agents from any claims or damages arising out of or in connection with the termination or revocation of this Permit.

The Permittee shall be solely responsible for and shall defend, indemnify and hold harmless an Authorized Municipality and its elected officials, officers, employees, servants, and agents from liabilities of every kind, including losses, damages and reasonable costs, payments and expenses (such as, but not limited to, court costs and reasonable attorneys' fees and disbursements), claims, demands, actions, suits, proceedings, judgments or settlements, any or all of which are asserted by any individual, private entity, or public entity against the Authorized Municipality and its elected officials, officers, employees, servants, or agents and arise out of or are in any way related to the issuance of this Permit. Without limiting the generality of the preceding sentence, the provisions of this paragraph shall extend to indemnify and hold harmless the Authorized Municipality and its elected officials, officers, employees, servants, and agents from any claims or damages arising out of or in connection with the termination or revocation of this Permit.

8. **Sewer Construction by District.** Permittee understands and acknowledges that the District has the right and power to construct and extend sewer service facilities and render such services within the area to be served by the project for which this Permit is issued, and that by the District constructing and extending such sewer service facilities and rendering such services, the facilities constructed by the Permittee under this Permit may decrease in value, become useless or of no value whatsoever, the Permittee may also sustain a loss of business, income and profits.

Therefore, by accepting this Permit and acting thereon, the Permittee, for itself, its successors and assigns, does remise, release and forever discharge the District and its Commissioners, officers, employees, servants, and agents of any and all claims whatsoever which Permittee may now have or hereafter acquire and which Permittee's successors and assigns hereafter can, shall, or may have against the District and its Commissioners, officers, employees, servants, and agents for all losses and damages, either direct or indirect, claimed to have been incurred by reason of the construction or extension at any time hereafter by the District of sewer service facilities in the service area contemplated by this Permit, the rendering of such services, which District facilities and services decrease the value of the facilities constructed by the Permittee under this Permit, make same useless or of no value whatsoever, including but not limited to, any and all damages arising under 70 ILCS 2605/19; the taking of private property for public use without due compensation; the interference with the contracts of Permittee; the interference with Permittee's use and enjoyment of its land; and the decrease in value of Permittee's land.

9. **Third Parties.** Regarding Qualified Sewer Construction, this Permit does not grant the right or authority to the Permittee: (a) to construct or encroach upon any lands of the District or of any other parties, (b) to construct outside of the territorial boundaries of the District except as allowed under an extraterritorial service agreement, (c) to construct or encroach upon the territorial boundaries of any units of local government within the District, (d) to connect to or discharge into or be served by (directly or indirectly) any sewer or sewer system owned or operated by third parties.

10. **Costs.** It is expressly stipulated and clearly understood that the Stormwater Facilities, Detention Facilities, Qualified Sewer Construction, or facilities for which the Permit is issued shall be constructed, operated and maintained at no cost to the District.

11. **Other Sewer Construction.** The District reserves the right, privilege and authority to permit others to reconstruct, change, alter and replace all sewers and appurtenances thereto at the point of connection of any sewerage system to a District interceptor and/or in public

right-of-ways of District easements, and to introduce additional Sewage flow through this connection into the intercepting sewer of said District.

12. **Change of Use.** This Permit shall be incorporated in the Building and Occupancy Permit for the Building or Buildings served under this Permit. The Owner or occupant of any Building served under this Permit shall not cause, or permit, a change of use of the Building to a use other than that indicated in this Permit without first having obtained a written permission from the Executive Director of the District.

13. **Interceptors Overloading.** The District hereby serves notice that its interceptors may flow full and may surcharge, and flooding of the proposed system may occur. The Permittee agrees that the proposed systems shall be constructed, operated and maintained at the sole risk of the Permittee.

14. **Transferability.** This Permit may not be assigned or transferred without the written consent of the Executive Director of the District or Enforcement Officer of an Authorized Municipality. However, a Sole Permittee may be required to assign or transfer the Permit when divesting itself of ownership to a third-party and should notify the District prior to such divestment so that the District may determine whether assignment to the new owner is necessary.

15. **Termination.** The District has the right to enforce or revoke a Permit issued by either the District or an Authorized Municipality as outlined in Article 12 of the Watershed Management Ordinance.

It is understood and agreed that in the event the Permittee shall default on or fail to perform and carryout any of the covenants, conditions or provisions of this Permit and such default or violation shall continue for sixty (60) days after receipt of notice thereof in writing given by the Executive Director of the District, then it shall be lawful for the District at or after the expiration of said sixty (60) days to declare said Permit terminated. The Permittee agrees that immediately upon receipt of written notice of such termination it will stop all operations, discontinue any discharges and disconnect the sewerage system or facilities constructed under this Permit. If the Permittee fails to do so, the District shall have the right to disconnect said system. The Permittee hereby agrees to pay for any costs incurred by the District for said disconnection.

16. **Rights and Remedies.** The various rights and remedies of the District contained in this Permit shall be construed as cumulative, and no one of them shall be construed as exclusive of any one or more of the others or exclusive of any other rights or remedies allowed by applicable rules, regulations, ordinances and laws. An election by the District to enforce any one or more of its rights or

remedies shall not be construed as a waiver of the rights of the District to pursue any other rights or remedies provided under the terms and provisions of this Permit or under any applicable rules, regulations, ordinances or laws.

or other facilities shall be put in service until all the conditions of the Permit have been satisfactorily met.

- 17. **Expiration.** This Permit shall expire if construction has not started within one (1) year from the date of issue. Construction under an expired Permit is deemed construction without a Permit. All construction under this Permit shall be completed within two (2) years after start of construction. If conditions so warrant, an extension may be granted. For publicly financed projects (e.g. special assessments) the one (1) year period indicated will be considered from the date of final court action.
- 18. **Revocation.** In issuing this Permit, the District or Authorized Municipality has relied upon the statements and representations made by the Permittee or his agent. Any incorrect statements or representations shall be cause for revocation of this Permit, and all the rights of the Permittee hereunder shall immediately become null and void.
- 19. **Advance Notice.** The Permittee shall give the District or Authorized Municipality advance notice of at least two working days prior to the following: mobilization and installation of Erosion and Sediment Control Practices; commencement of construction; excavation for Qualified Sewer Construction; Major Stormwater Systems and Detention Facilities under this Permit; and completion of construction. When advance notice is given, the Permittee shall provide the Permit number, municipality and location.
- 20. **Compliance with Plans and Specifications.** All construction shall be in accordance with the plans and specifications submitted for this Permit and made a part hereof. No changes in, or deviation from the plans and specifications which affect capacity, maintenance, design requirements, service area or Permit requirements shall be permitted unless revised plans have been submitted to, and approved by the District or Authorized Municipality. The Permit together with a set of the plans and specifications (revised plans and specifications, if any) shall be kept on the jobsite at all times during construction and until final inspection and approval by the District or Authorized Municipality.
- 21. **Testing and Approval.** All construction under this Permit shall be subject to inspection, testing and approval by the District. All testing shall be made, or caused to be made, by the Permittee at no cost to the District and in the presence of the District representative. Upon satisfactory completion of construction, the Permittee and the owner shall submit, or cause to be submitted, a completion certificate and request for approval on the form prescribed by the District. No sewer

- 22. **Record Drawings.** Before final inspection and approval by the District or an Authorized Municipality, the Permittee shall furnish, or cause to be furnished to the District or an Authorized Municipality, a set of Record drawings and Schedule R for the site stormwater plan, Detention Facilities, Stormwater Facilities, and Qualified Sewer Construction, or a statement that the project was constructed in accordance with the original plans and specifications.
- 23. **Compliance with Rules and Regulations.** The Permittee hereby expressly assumes all responsibilities for meeting the requirements of all applicable rules, regulations, ordinances and laws of Local, State and Federal authorities. Issuance of this Permit shall not constitute a waiver of any applicable requirements.
- 24. **Severability.** The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit, is held invalid, the remaining provisions of this Permit shall continue in full force and effect.
- 25. **Property Rights.** This Permit does not convey any property rights of any sort, or any exclusive privilege.
- 26. **Conflict with Other Conditions.** In the case of conflict between these General Conditions and any other condition(s) in this permit, the more stringent condition(s) shall govern.

**WMO SCHEDULE A
PROJECT INFORMATION**

Watershed Management Permit No. 19-365
LOCAL SEWER SYSTEMS
SECTION

1. **NAME OF PROJECT** Lake Street - IL Route 83 to Euclid Avenue Streetscape Project
(as shown on the plans)

2. **APPURTENANCES** (check all applicable items)
 Siphon Drop Manholes Public Lift Station Outfalls
(Submit Sch. E) (Submit Sch. O)
 Stream Crossing Direct Connections to District → Describe _____

3. **RECEIVING SANITARY/COMBINED SEWER SYSTEM**
A. System that project will connect to is:
 Existing Proposed /Under Construction → District Permit # _____
List owners of all sewers from project to District interceptor Village of Oak Park

4. **RECEIVING STORM SEWER SYSTEM TRIBUTARY TO WATERWAY**
A. System that project will connect to is:
 Existing Proposed /Under Construction → District Permit # _____
List owners of all sewers from project to waterway Village of Oak Park

5. **EXISTING LIFT STATION**
 No Yes → Receiving system includes existing lift station
If yes, indicate location _____

6. **FLOOD PROTECTION AREAS**
Does any part of the project area impact the following? (check all applicable items)
 Floodplain/Floodway/Riparian (Schedule H) Wetlands/Riparian (Schedule W)

7. **SIZE OF PROJECT**
A. Total contiguous ownership N/A acres Impervious area within project
B. Development Area N/A acres C. Before development N/A acres
D. After development N/A acres

8. **STORMWATER MANAGEMENT**
A. Is project in the service area of an existing District permitted detention facility?
 No Yes → District Permit No. _____
B. Is stormwater management provided under this permit?
 No Yes → Required by: District Other
(Submit Sch. D)
C. Type of stormwater management
 Runoff Control Volume Control Detention Storage

**WMO SCHEDULE B
SEWER SUMMARY**

Watershed Management Permit No.

18-365

PROJECT NAME: Lake Street Sewer and Water Improvements

(as shown on the plans)

1. **SEWER SUMMARY:** Include all qualified sewer construction sewers (Sanitary sewers in combined and separate sewer areas and Storm sewers in combined sewer area) and their tributary type:
Sanitary (San), Combined (C), Storm to Combined (SC), Storm to Waterway (SW), or Storm to Volume Control (SVC)

Tributary Type	Choose an SC	Choose an Choose one	Choose an Choose one	Choose an Choose one	Choose Choose one	Choose an Choose one	Choose Choose one
Pipe Size (in.)	8						
Total Length (ft.)	226						
Min. slope used (%)	2						
Pipe Material *	AWWA C900						
Total Manholes	0						
Total Cleanouts	0						
Catch Basin/Inlets	18						

* Pipe material and joint specifications must be shown on plans. See Technical Guidance Manual for acceptable specifications.

Sewer construction in floodplain: No Yes → FPE _____ ft.

Sanitary Manholes in floodplain _____

Note: All structures shall have lids located above the FPE or be constructed with watertight, bolt down covers/lids.

2. **NATURE OF PROJECT** (Check all that apply)

Brief description Streetscape of Downtown Oak Park - minor drainage improvements as noted below

- Publicly financed Sewer extension to serve future development
 Sewer system serving a subdivision Storm sewers in combined sewer area
 Off-site trunk sewer to serve subdivision Service connections to serve buildings (Sch. C)
 Other Connecting catch basins to existing storm laterals or to existing combined sewer trunk line

3. **SEWER EXTENSIONS**

Identify proposed project designed to service future connections (not included in Schedule C). Check the appropriate box and submit service area map and estimate of population equivalent (PE) to be served.

- NO YES → Service area map
 P.E. estimate submitted

WMO SCHEDULE C Watershed Management Permit No
SEWER CONNECTIONS
 (FILL OUT ALL SECTIONS THAT APPLY)

18-365

1. BUILDING CONNECTION DATA

A. RESIDENTIAL BUILDINGS

<input type="checkbox"/>	Single Family	Total dwelling units *	N/A		
		Number of sewer connections *	N/A	PE**	N/A
<input type="checkbox"/>	Multi Family	Total dwelling units *	N/A		
		Number of sewer connections *	N/A	PE**	N/A

B. COMMERCIAL & RECREATIONAL BUILDINGS

<input type="checkbox"/>	Number of sewer connections	N/A	PE**	N/A
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C. INDUSTRIAL BUILDINGS

<input type="checkbox"/>	Number of sewer connections	N/A	PE**	N/A
--------------------------	-----------------------------	-----	------	-----

* Each sanitary line exiting a building is a connection

** Population Equivalent (Submit calculations for each connection and total from all connections)

2. BUILDING USE - (Check all that apply)

A. COMMERCIAL & RECREATIONAL

Describe use of buildings, including principal product(s) or activities N/A

- | | |
|--|--|
| <input type="checkbox"/> Food preparation or processing (install grease separator) | <input type="checkbox"/> Laundromat (install lint basin) |
| <input type="checkbox"/> Swimming pool (provide pool plans) | <input type="checkbox"/> Auto service (install triple basin) |
| <input type="checkbox"/> Manufacturing (describe) <u>N/A</u> | <input type="checkbox"/> Auto wash (install mud basin) |
| <input checked="" type="checkbox"/> Other <u>N/A</u> | |

B. INDUSTRIAL BUILDINGS

Describe use of buildings, including principal product(s) or activities N/A

N/A

- Sewer connections will receive domestic sewage only
 Industrial waste is produced

NOTE: If industrial waste is produced, submit WMO Schedule F & WMO Schedule G and plumbing plans along with flow diagram for pretreatment system.

SPECIAL CONDITIONS FOR PERMIT NO 18-365

1. Construction must conform to the soil erosion and sediment control requirements of this permit and any other local, state, and/or federal agencies.
2. The issuance of this permit does not grant authority to the Permittee/Co-Permittee to work within the Illinois Department of Transportation (IDOT) right-of-way. The issuance of this permit does not relieve the Permittee/Co-Permittee from making proper notices to or from obtaining proper authorization from IDOT, as may be necessary.
3. This permit is issued for qualified sewer construction only.
4. All abandoned sewers/forcemains shall be plugged at both ends with at least 2 feet long non-shrink concrete or mortar plugs.
5. Except for perforated pipes serving the green infrastructure (GI) system and for foundation/footing drains provided to protect buildings, drain tiles/field tiles/underdrains/perforated pipes discharging into sanitary sewers, combined sewers, or storm sewers tributary to MWRD facilities is prohibited. Construction of new facilities of this type is prohibited. Any encountered/discovered drain tiles/field tiles/underdrains/perforated pipes within the project area, other than those serving the GI system, shall be plugged or removed, and shall not discharge directly or indirectly to MWRD facilities.
6. The sewer covered by this permit shall not be put in service until the receiving system shown on the plans is constructed and completed, and approved/accepted by MWRD. The issuance of this permit shall not be construed as a representation by MWRD that the receiving system will be completed and/or approved/accepted in time to serve the project under this permit.

ENGINEERING CERTIFICATIONS

18-365

Watershed Management Permit No. _____

CERTIFICATE BY DESIGN ENGINEER: I hereby certify that the project described herein has been designed in accordance with the requirements set forth in this application and all applicable ordinances, rules, regulations, local, state and federal laws, and design criteria of the issuing authority; that the storm drainage and sanitary sewer system designed for this project are proper and adequate; that where the design involves one or more connections to an existing local sewer system, the capacity of said system has been examined and the system is found to be adequate to transport the stormwater and/or wastewater that will be added through the proposed sewer without violating any provisions of the Illinois Environmental Protection Act or the rules and regulations thereunder.

Comments, if any: _____

Engineering Firm: Thomas Engineering Group, LLC Telephone: (847) 922 - 6125

Address: 22nd Street, Suite 300 City: Lombard Zip: 60148



Signature: *B. Pappalardo* Project Manager Date: 8/19/2019
(Name and Title)

CERTIFICATE BY MUNICIPAL OR SYSTEM ENGINEER: The application and the drawings, together with other data being submitted with this application, have been examined by me and are found to be in compliance with all applicable requirements. The manner of drainage is satisfactory and proper in accordance with local requirements. The existing local sewer system to which the project discharges has been examined and the system is found to be adequate to transport the stormwater and/or wastewater that will be added through the proposed sewer without violating any provisions of the Illinois Environmental Protection Act or the rules and regulations thereunder.

I hereby certify that the project area is within the municipal corporate limits. YES NO

Owner of Local Sewer System: Village of Oak Park

Municipal Engineer: Bill McKenna Telephone: 708-358-5722

Address: 201 South Blvd City: Oak Park Zip: 60302

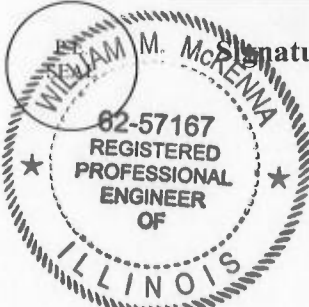


Signature: *W. McKenna* Village Engineer Date: 12/18/19
(Name and Title)

CERTIFICATE BY INSPECTION ENGINEER: I hereby certify that construction of the project will be in substantial compliance with the data and the plans submitted with this application; that approval will be obtained from the issuing authority prior to making any changes that would affect capacity, maintenance, design requirements, service area or the Permit requirements; that a set of RECORD drawings, signed and sealed by the undersigned Engineer will be furnished to the District or an Authorized Municipality before testing and approval by the District or Authorized Municipality of the completed work.

Engineering Firm: Village of Oak Park Telephone: 708-358-5722

Address: 201 South Blvd City: Oak Park Zip: 60302



Signature: *W. McKenna* Village Engineer Date: 12/18/19
(Name and Title)

SPECIAL CONDITIONS Watershed Management Permit No.

This Permit is issued subject to the General Conditions and the attached Special Conditions.

If Permit is granted:

- Please return two (2) copies of the Permit to the Permittee; or
- Please mail one (1) copy to Permittee and one (1) copy to the person designated below:

Name: _____

Address: _____

CERTIFICATE BY APPLICANTS: We have read and thoroughly understand the conditions and requirements of this Permit application, and agree to conform to the Permit conditions and other applicable requirements of the District. It is understood that construction hereunder, after the Permit is granted, shall constitute acceptance by the applicants of any Special Conditions that may be placed hereon by the District or an Authorized Municipality. It is further understood that this application shall not constitute a Permit until it is approved, signed and returned by the Director of Engineering of the District or Enforcement Officer of an Authorized Municipality.

PERMITTEE	CO-PERMITTEE
<p>The project area is within municipal corporate limits.</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable</p>	<p>(Co-Permittee is Property Owner)</p> <p>Title to property is held in a land trust: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, Co-Permittee shall be beneficiary with Power of Direction</p>
Municipality <u>Village of Oak Park</u>	Owner _____
Address <u>201 South Blvd</u>	Address _____
City <u>Oak Park</u> Zip <u>60302</u>	City _____ Zip _____
Signature	Signature _____
Name <u>Bill McKenna</u> (Print)	Name _____ (Print)
Title <u>Village Engineer</u>	Title _____
Date <u>12/19/18</u> Phone <u>708-358-5722</u>	Date _____ Phone _____

REVIEW AND APPROVAL BY THE DISTRICT OR AUTHORIZED MUNICIPALITY	
Reviewed by: _____ (Local Sewer Systems) or (Professional Engineer)	Date <u>10/25/2019</u>
Approved for Issue Approved by: _____ (For the Director of Engineering) or (Enforcement Officer)	Date <u>10/28/2019</u>

BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE)

Effective: November 2, 2006

Revised: August 1, 2017

Description. Bituminous material cost adjustments will be made to provide additional compensation to the Contractor, or credit to the Department, for fluctuations in the cost of bituminous materials when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract.

The adjustments shall apply to permanent and temporary hot-mix asphalt (HMA) mixtures, bituminous surface treatments (cover and seal coats), and preventative maintenance type surface treatments that are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply to bituminous prime coats, tack coats, crack filling/sealing, joint filling/sealing, or extra work paid for at a lump sum price or by force account.

Method of Adjustment. Bituminous materials cost adjustments will be computed as follows.

$$CA = (BPI_P - BPI_L) \times (\%AC_V / 100) \times Q$$

Where: CA = Cost Adjustment, \$.

BPI_P = Bituminous Price Index, as published by the Department for the month the work is performed, \$/ton (\$/metric ton).

BPI_L = Bituminous Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/ton (\$/metric ton).

%AC_V = Percent of virgin Asphalt Cement in the Quantity being adjusted. For HMA mixtures, the % AC_V will be determined from the adjusted job mix formula. For bituminous materials applied, a performance graded or cutback asphalt will be considered to be 100% AC_V and undiluted emulsified asphalt will be considered to be 65% AC_V.

Q = Authorized construction Quantity, tons (metric tons) (see below).

For HMA mixtures measured in square yards: $Q, \text{ tons} = A \times D \times (G_{mb} \times 46.8) / 2000$. For HMA mixtures measured in square meters: $Q, \text{ metric tons} = A \times D \times (G_{mb} \times 1) / 1000$. When computing adjustments for full-depth HMA pavement, separate calculations will be made for the binder and surface courses to account for their different G_{mb} and % AC_V.

For bituminous materials measured in gallons: $Q, \text{ tons} = V \times 8.33 \text{ lb/gal} \times SG / 2000$

For bituminous materials measured in liters: $Q, \text{ metric tons} = V \times 1.0 \text{ kg/L} \times SG / 1000$

Where: A = Area of the HMA mixture, sq yd (sq m).

D = Depth of the HMA mixture, in. (mm).

G_{mb} = Average bulk specific gravity of the mixture, from the approved mix design.

V = Volume of the bituminous material, gal (L).
SG = Specific Gravity of bituminous material as shown on the bill of lading.

Basis of Payment. Bituminous materials cost adjustments may be positive or negative but will only be made when there is a difference between the BPI_L and BPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(BPI_L - BPI_P) \div BPI_L\} \times 100$$

Bituminous materials cost adjustments will be calculated for each calendar month in which applicable bituminous material is placed; and will be paid or deducted when all other contract requirements for the work placed during the month are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80173

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

“109.13 Payment for Contract Delay. Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
 - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

80384

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: March 2, 2019

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 16.00 % of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>.

BIDDING PROCEDURES. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdf file using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate and adequately document enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere *pro forma* efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
 - (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
 - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the

bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.

- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission 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 emailed to the Department at DOT.DBE.UP@illinois.gov.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) SUBCONTRACT. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.

- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.

- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) FINAL PAYMENT. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be

made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

80029

DISPOSAL FEES (BDE)

Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

- “(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first \$10,000 and one percent of any amount over \$10,000 of the total approved costs of such fees.
- (6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability and workmen’s compensation insurance premiums, unemployment insurance contributions, and social security tax.
- (8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.

- (9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

80402

DOWEL BAR INSERTER (BDE)

Effective: January 1, 2017

Revised: January 1, 2018

Add the following to Article 420.03 of the Standard Specifications.

“(l) Mechanical Dowel Bar Inserter1103.20”

Revise the first paragraph of Article 420.05(b)(1) of the Supplemental Specifications to read:

“Preformed or Drilled Holes. If applicable, the tie bars shall be installed after the dowel bars have been tested with the MIT Scan-2 device according to Article 420.05(c)(2)b.2. The tie bars shall be installed with a nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows.”

Revise Article 420.05(c) of the Standard Specifications to read:

“(c) Transverse Contraction Joints. Transverse contraction joints shall consist of planes of weakness created by sawing grooves in the surface of the pavement and shall include load transfer devices consisting of dowel bars. Transverse contraction joints shall be according to the following.”

Revise Article 420.05(c)(2) of the Standard Specifications to read:

“(2) Dowel Bars. Dowel Bars shall be installed parallel to the centerline of the pavement and parallel to the proposed pavement surface. Installation shall be according to one of the following methods.

- a. Dowel Bar Assemblies. The assembly shall act as a rigid unit with each component securely held in position relative to the other members of the assembly. The entire assembly shall be held securely in place by means of nails which shall penetrate the stabilized subbase. At least ten nails shall be used for each 10, 11, or 12 ft (3, 3.3, or 3.6 m) section of assembly.

Metal stakes shall be used instead of nails, with soil or granular subbase. The stakes shall loop over or attach to the top parallel spacer bar of the assembly and penetrate the subgrade or subbase at least 12 in. (300 mm).

At the location of each dowel bar assembly, the subgrade or subbase shall be reshaped and re-tamped when necessary.

Prior to placing concrete, any deviation of the dowel bars from the correct horizontal or vertical alignment (horizontal skew or vertical tilt) greater than 3/8 in. in 12 in (9 mm in 300 mm) shall be corrected and a light coating of oil shall be uniformly applied to all dowel bars.

Care shall be exercised in depositing the concrete at the dowel bar assemblies so the horizontal and vertical alignment will be retained.

- b. Dowel Bar Insertion. The dowel bars may be placed in the pavement slab with a mechanical dowel bar inserter (DBI) attached to a formless paver for pavements ≥ 7.0 in. (175 mm) in thickness. A light coating of oil shall be uniformly applied to all dowel bars.

The DBI shall insert the dowel bars with vibration into the plastic concrete after the concrete has been struck off and consolidated without deformation of the slab. After the bars have been inserted, the concrete shall be refinished and no voids shall exist around the dowel bars. The forward movement of the paver shall not be interrupted by the inserting of the dowel bars.

The location of each row of dowel bars shall be marked in a manner to facilitate where to insert the bars, and where to saw the transverse joint.

1. Placement Tolerances for Dowel Bars. The DBI shall place the dowel bars in the concrete pavement within the following tolerances.

- (a.) Longitudinal Translation (Mislocation). Longitudinal translation (mislocation) shall be defined as the position of the center of the dowel bar along the longitudinal axis, in relation to the sawed joint.

The quality control tolerance for longitudinal translation shall not exceed 2.0 in (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having two or more dowel bars with an embedment length less than 4.0 in. (100 mm) within 12 in. (300 mm) of the same wheelpath will be considered unacceptable. The left and right wheelpaths shall be determined by excluding the middle 2.5 ft (0.8 m) of the pavement lane, and by excluding the outer 1.0 ft (0.3 m) measured from each pavement lane edge. Any joint having an average dowel bar embedment length less than 5.25 in. (130 mm) will also be considered unacceptable. Embedment length shall be defined as the length of dowel bar embedded on the short side of the sawed joint. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

- (b.) Horizontal Translation (Mislocation). Horizontal translation (mislocation) shall be defined as the difference in the actual dowel bar location parallel to the longitudinal or edge joint from its theoretical position as shown on the plans.

The quality control tolerance for horizontal translation shall not exceed 2.0 in. (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a translation greater than 4.0 in. (100 mm) will be considered unacceptable, but may remain in place unless the Engineer determines the joint will not function. If the joint is unable to remain in place, the joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(c.) Vertical Translation (Mislocation). Vertical translation (mislocation) shall be defined as the difference in the vertical position of the dowel bar relative to the theoretical midpoint of the slab.

The quality control tolerance for vertical translation shall be as shown in the following table. If these tolerances are exceeded, adjustments shall be made to the paving operation.

Pavement Thickness	Dowel Bar Diameter	Vertical Translation Tolerance Above Midpoint	Vertical Translation Tolerance Below Midpoint
≥7 in. to <8 in. (≥175 mm to <200 mm)	1.25 in. (31 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥8 in. to <9 in. (≥200 mm to <225 mm)	1.50 in. (38 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥9 in. to <10 in. (≥225 mm to <250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	0.75 in. (19 mm)
≥10 in. (≥250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	1.0 in. (25 mm)

Any joint having a dowel bar with top concrete cover less than T/3, where T is slab thickness, will be considered unacceptable. Any joint having 2 or more dowel bars with bottom concrete cover less than 2.0 in. (50 mm) will also be considered unacceptable. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement according to Section 442 for Class B patches.

(d.) Vertical Tilt or Horizontal Skew (Misalignment). Vertical tilt or horizontal skew (misalignment) shall be defined as the difference in position of the dowel bar ends with respect to each other. Vertical tilt is measured in the vertical axis whereas horizontal skew is measured in the horizontal axis. Misalignment shall be measured in terms of a joint score. The joint score shall be defined as the degree of misalignment evaluated for a single

transverse joint for each lane of pavement. The joint score shall be determined as follows:

$$Joint\ Score = \left(1 + \left(\frac{x}{x-n} \right) \sum_{i=1}^{x-n} W_i \right)$$

where:

W_i = weighting factor (Table 1) for dowel i

x = number of dowels in a single joint

n = number of dowels excluded from the joint score calculation due to measurement interference

Single Dowel Misalignment – The degree of misalignment applicable to a single dowel bar, calculated as:

$$Single\ Dowel\ Misalignment = \sqrt{(Horizontal\ Skew)^2 + (Vertical\ Tilt)^2}$$

Table 1. Weighting Factors in Joint Score Determination	
Single Dowel Bar Misalignment (SDM)	W, Weighting Factor
SDM ≤ 0.6 in. (15 mm)	0
0.6 in. (15 mm) < SDM ≤ 0.8 in. (20 mm)	2
0.8 in. (20 mm) < SDM ≤ 1 in. (25 mm)	4
1 in. (25 mm) < SDM ≤ 1.5 in. (38 mm)	5
1.5 in. (38 mm) < SDM	10

The quality control tolerance for vertical tilt or horizontal skew shall not exceed 0.6 in. (15 mm). If the tolerance is exceeded for either one, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a vertical tilt or horizontal skew greater than 1.5 in. (38 mm) shall be cut. If more than one dowel bar is required to be cut in the joint, the joint will be considered unacceptable and shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

Single dowel bar misalignment shall be controlled to provide the joint scores shown in the following table.

Number of Dowel Bars in the Joint	Maximum Joint Score
< 5	4
≥ 5 but ≤ 9	8
> 9	12

A joint score greater than the specified maximum will be considered locked. Three consecutive joints with a score greater than the specified maximum total score will all be considered unacceptable.

Three consecutive locked joints shall be corrected by selecting one joint and cutting a dowel bar. Preference shall be given to cutting a dowel bar within the middle 2.5 ft (0.8 m) of the pavement lane to avoid the wheelpaths. If none of the three locked joints will have a joint score less than or equal to the specified maximum after selecting one dowel bar to cut, one of the joints shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(e.) For unacceptable work, the Contractor may propose alternative repairs for consideration by the Engineer.

2. Testing of Dowel Bar Placement. The placement of the dowel bars shall be tested within 24 hours of paving with a calibrated MIT Scan-2 device according to "Use of Magnetic Tomography Technology to Evaluate Dowel Placement" (Publication No. FHWA-IF-06-006) by the Federal Highway Administration.

A trained operator shall perform the testing, and all testing shall be performed in the presence of the Engineer. The device shall be calibrated to the type and size dowel bar used in the work according to the manufacturer's instructions. Calibration documentation shall be provided to the Engineer prior to construction. The device shall be recalibrated and/or validate readings as required by the Engineer. The device may be utilized as a process control and make necessary adjustments to ensure the dowel bars are placed in the correct location.

(a.) Test Section. Prior to start of production paving, a test section consisting of 30 transverse joints shall be constructed. The test section may be performed on the actual pavement, but production paving shall not begin until an acceptable test section has been constructed. The test section will be considered acceptable when all of the following are met:

- (1.) 90 percent of the dowel bars meet the quality control tolerance for longitudinal, horizontal, or vertical translation (mislocation);
- (2.) 90 percent of the dowel bars meet the quality control tolerance for vertical tilt or horizontal skew deviation (misalignment); and
- (3.) none of the joints are considered unacceptable prior to a corrective measure for mislocation or misalignment.

If the test section fails, another test section consisting of 30 joints shall be constructed.

The test section requirement may be waived by the Engineer if the Contractor has constructed an acceptable test section and successfully used the DBI on a Department contract within the same calendar year.

- (b.) Production Paving. After the test section is approved, production paving may begin. The mislocation and misalignment of each dowel bar for the first ten joints constructed, and every tenth joint thereafter, shall be tested.

If two consecutive days of paving result in 5 percent or more of the joints on each day being unacceptable prior to a corrective measure, production paving shall be discontinued and a new test section shall be constructed.

If any joint is found to be unacceptable prior to a corrective measure, testing of additional joints on each side of the unacceptable joint shall be performed until acceptable joints are found.

- (c.) Test Report. Test reports shall be provided to the Engineer within two working days of completing each day's testing. The test report shall include the following.

(1.) Contract number, placement date, county-route-section, direction of traffic, scan date, Contractor, and name of individual performing the tests.

(2.) Provide the standard report generated from the on-board printer of the imaging technology used for every dowel and joint measured.

(3.) For every dowel measured, provide the joint identification number, lane number and station, dowel bar number or x-location, direction of testing and reference joint location/edge location, longitudinal translation, horizontal translation, vertical translation, vertical tilt, and horizontal skew.

(4.) Identify each dowel bar with a maximum longitudinal, horizontal, or vertical translation that has been exceeded. Identify each dowel bar with a maximum vertical tilt or horizontal skew deviation that has been exceeded.

(5.) Joint Score Details: Provide the joint identification number, lane number, station, and calculated joint score for each joint.

- (6.) Locked Joint Identification: Identify each joint where the maximum joint score is exceeded.
- (d.) Exclusions. Exclude the following from dowel bar mislocation and misalignment measurements.
 - (1.) Transverse construction joints (headers).
 - (2.) Dowel bars within 24 in. (610 mm) of metallic manholes, inlets, metallic castings, or other nearby or underlying steel reinforced objects.
 - (3.) The outside dowel bar when tie bars are installed with mechanical equipment in fresh concrete. For tie bar installations involving preformed or drilled holes, installation of the tie bar shall be performed after testing with the MIT Scan-2 device.
 - (4.) Joints located directly under high voltage power lines.
 - (5.) Subject to the approval of the Engineer, any other contributors to magnetic interference.
- (e.) Deficiency Deduction. When the Contractor has cut 25 dowel bars to correct unacceptable joints, the Contractor shall be liable and shall pay to the Department a deficiency deduction of \$500.00 for the cost of the bars. Thereafter, an additional deficiency deduction of \$20.00 for each additional bar cut will be assessed.”

Add the following to Section 1103 of the Standard Specifications.

“1103.20 Mechanical Dowel Bar Inserter. The mechanical dowel bar inserter (DBI) shall be self-contained and supported on the formless paver with the ability to move separately from the paver. The DBI shall be equipped with insertion forks along with any other devices necessary for finishing the concrete the full width of the pavement. The insertion forks shall have the ability to vibrate at a minimum frequency of 3000 VPM.”

80378

ELECTRIC SERVICE INSTALLATION (BDE)

Effective: January 1, 2020

Revise Article 804.04 of the Standard Specifications to read:

“804.04 Installation. The electric service installation shall extend from the existing utility owned transformer to the point of cable termination of the incoming power at the controller enclosure.

The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work required to complete the electric service installation while meeting the requirements of the utility. Unless otherwise required by the utility, grounding shall be according to Section 806, raceways shall be according to Sections 810 – 812, and conductors shall be according to Sections 817 – 818.

The electric service installation shall include an appropriate service disconnect and when required, metering. Metering shall include all metering material, including potential and current transformers. The metering and service disconnect shall be installed remote to the controller enclosure where possible.

The total length of aerial and underground service between the controller enclosure and utility transformer shall not exceed 250 ft (76 m). The service pole or structure and controller shall be located adjacent to the right-of-way line or a minimum distance of 30 ft (9 m) from the edge of pavement. The exact location will be established by the Engineer.

Specific requirements for aerial and underground electric service installations shall be as follows.

- (a) **Aerial Electric Service.** The aerial service shall be mounted on a wood pole, along with a weatherhead, disconnect switch, meter base (if required), and all appurtenances to complete the installation.

The wood pole shall be installed according to Article 830.03(c), except the pole shall be a minimum of 25 ft (7.5 m) in length and shall be increased as necessary to maintain ground clearance.

- (b) **Underground Electric Service.**

- (1) **Ground Mounted Service.** The ground mounted service shall be installed on a corrosion resistant pedestal or structure with a service disconnect switch, meter base (if required), and all appurtenances to complete the installation.

- (2) **Pole Mounted Service.** The service shall be installed on a 12 ft (3.7 m) wood pole on which the meter base (if required) and service disconnect switch shall be channel

mounted. The wood pole shall be installed according to Article 830.03(c), except the pole shall be plumb.

- (c) Conduit Protection. Feeder conductors in PVC conduit on the service pole or structure shall be protected by galvanized steel “U” guard. When on a pole, the “U” guard shall be attached with 3/8 in. x 3 in. (M10 x 75 mm) galvanized steel lag bolts.”

Revise Article 804.05 of the Standard Specifications to read:

“804.05 Basis of Payment. This work will be paid for at the contract unit price per each for ELECTRIC SERVICE INSTALLATION.

For aerial electric service, work on the utility side of the weatherhead at the service pole will be paid for according to Article 109.04 when not provided by the utility company.

For underground electric service, work on the utility side of the service pole, pedestal, or structure where the service cables penetrate the ground will be paid for according to Article 109.04 when not provided by the utility company.

Any charges by the utility company to provide electrical service will be paid for according to Article 109.05.”

80421

EMULSIFIED ASPHALTS (BDE)

Effective: August 1, 2019

Revise Article 1032.06 of the Standard Specifications to read:

“1032.06 Emulsified Asphalts. Emulsified asphalts will be accepted according to the current Bureau of Materials Policy Memorandum, “Emulsified Asphalt Acceptance Procedure”. These materials shall be homogeneous and shall show no separation of asphalt after thorough mixing, within 30 days after delivery, provided separation has not been caused by freezing. They shall coat the aggregate being used in the work to the satisfaction of the Engineer and shall be according to the following requirements.

- (a) Anionic Emulsified Asphalt. Anionic emulsified asphalts RS-1, RS-2, HFRS-2, SS-1h, and SS-1 shall be according to AASHTO M 140, except as follows.
 - (1) The cement mixing test will be waived when the emulsion is being used as a tack coat.
 - (2) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.
- (b) Cationic Emulsified Asphalt. Cationic emulsified asphalts CRS-1, CRS-2, CSS-1h, and CSS-1 shall be according to AASHTO M 208, except as follows.
 - (1) The cement mixing test will be waived when the emulsion is being used as a tack coat.
 - (2) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.
- (c) High Float Emulsion. High float emulsions HFE-90, HFE-150, and HFE-300 are medium setting and shall be according to the following table.

Test	HFE-90	HFE-150	HFE-300
Viscosity, Saybolt Furol, at 122 °F (50 °C), (AASHTO T 59), SFS ^{1/}	50 min.	50 min.	50 min.
Sieve Test, No. 20 (850 µm), retained on sieve, (AASHTO T 59), %	0.10 max.	0.10 max.	0.10 max.
Storage Stability Test, 1 day, (AASHTO T 59), %	1 max.	1 max.	1 max.
Coating Test (All Grades), (AASHTO T 59), 3 minutes	stone coated thoroughly		
Distillation Test, (AASHTO T 59): Residue from distillation test to 500 °F (260 °C), % Oil distillate by volume, %	65 min. 7 max.	65 min. 7 max.	65 min. 7 max.

Characteristics of residue from distillation test to 500 °F (260 °C): Penetration at 77 °F (25 °C), (AASHTO T 49), 100 g, 5 sec, dmm	90-150	150-300	300 min.
Float Test at 140 °F (60 °C), (AASHTO T 50), sec.	1200 min.	1200 min.	1200 min.

1/ The emulsion shall be pumpable.

- (d) Penetrating Emulsified Prime. Penetrating Emulsified Prime (PEP) shall be according to AASHTO T 59, except as follows.

Test	Result
Viscosity, Saybolt Furol, at 77 °F (25 °C), SFS	75 max.
Sieve test, retained on No. 20 (850 µm) sieve, %	0.10 max.
Distillation to 500 °F (260 °C) residue, %	38 min.
Oil distillate by volume, %	4 max.

The PEP shall be tested according to the current Bureau of Materials Illinois Laboratory Test Procedure (ILTP), "Sand Penetration Test of Penetrating Emulsified Prime (PEP)". The time of penetration shall be equal to or less than that of MC-30. The depth of penetration shall be equal to or greater than that of MC-30.

- (e) Delete this subparagraph.
- (f) Polymer Modified Emulsified Asphalt. Polymer modified emulsified asphalts, e.g. SS-1hP, CSS-1hP, CRS-2P (formerly CRSP), CQS-1hP (formerly CSS-1h Latex Modified) and HFRS-2P (formerly HFP) shall be according to AASHTO M 316, except as follows.
- (1) The cement mixing test will be waived when the polymer modified emulsion is being used as a tack coat.
 - (2) CQS-1hP (formerly CSS-1h Latex Modified) emulsion for micro-surfacing treatments shall use latex as the modifier.
 - (3) Upon examination of the storage stability test cylinder after standing undisturbed for 24 hours, the surface shall show minimal to no white, milky colored substance and shall be a homogenous brown color throughout.
 - (4) The distillation for all polymer modified emulsions shall be performed according to AASHTO T 59, except the temperature shall be 374 ± 9 °F (190 ± 5 °C) to be held for a period of 15 minutes and measured using an ASTM 16F (16C) thermometer.
 - (5) The specified temperature for the Elastic Recovery test for all polymer modified emulsions shall be 50.0 ± 1.0 °F (10.0 ± 0.5 °C).

(6) The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent.

(g) Non-Tracking Emulsified Asphalt. Non-tracking emulsified asphalt NTEA (formerly SS-1vh) shall be according to the following.

Test	Requirement
Saybolt Viscosity at 77 °F (25 °C), (AASHTO T 59), SFS	20-100
Storage Stability Test, 24 hr, (AASHTO T 59), %	1 max.
Residue by Distillation, 500 ± 10 °F (260 ± 5 °C), or Residue by Evaporation, 325 ± 5 °F (163 ± 3 °C), (AASHTO T 59), %	50 min.
Sieve Test, No. 20 (850 µm), (AASHTO T 59), %	0.3 max.
Tests on Residue from Evaporation	
Penetration at 77 °F (25 °C), 100 g, 5 sec, (AASHTO T 49), dmm	40 max.
Softening Point, (AASHTO T 53), °F (°C)	135 (57) min.
Ash Content, (AASHTO T 111), % ^{1/}	1 max.

1/ The Solubility in Trichloroethylene test according to AASHTO T 44 may be run in lieu of Ash Content and shall meet a minimum of 97.5 percent

The different grades are, in general, used for the following.

Grade	Use
SS-1, SS-1h, RS-1, RS-2, CSS-1, CRS-1, CRS-2, CSS-1h, HFE-90, SS-1hP, CSS-1hP, NTEA (formerly SS-1vh)	Tack Coat
PEP	Prime Coat
RS-2, HFE-90, HFE-150, HFE-300, CRS-2P (formerly CRSP), HFRS-2P (formerly HFP), CRS-2, HFRS-2	Bituminous Surface Treatment
CQS-1hP (formerly CSS-1h Latex Modified)	Micro-Surfacing Slurry Sealing Cape Seal™

80415

ENGINEER'S FIELD OFFICE AND LABORATORY (BDE)

Effective: January 1, 2020

Revise the last sentence of the first paragraph of Article 670.01 of the Standard Specifications to read:

“The building shall remain available for use until released by the Engineer.”

Revise the fifth and sixth paragraphs of Article 670.02 of the Standard Specifications to read:

“Sanitary facilities shall include hot and cold potable running water, lavatory and toilet as an integral part of the office where available. A portable toilet, if necessary, shall be serviced once per week. Solid waste disposal consisting of two waste baskets and an outside trash container of sufficient size to accommodate a weekly provided pick-up service.

In addition, the following furniture and equipment meeting the approval of the Engineer shall be furnished.”

Revise Article 670.02(b) through 670.02(r) of the Standard Specifications to read:

- “(b) One desk with minimum working surface of 48 x 72 in. (1.2 x 1.8 m).
- (c) Two free standing four drawer legal size file cabinets with lock and an underwriters' laboratories insulated file device 350 degrees one hour rating.
- (d) Table(s) and chairs capable of seating 10 people.
- (e) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office in a manner to prevent theft of the entire cabinet.
- (f) One refrigerator with a minimum size of 14 cu ft (0.40 cu m) with a freezer unit.
- (g) One electric desk type tape printing calculator.
- (h) A minimum of two communication paths. The configuration shall include:
 - (1) Internet Connection. An internet service connection with a wireless router capable of providing service to a minimum of five devices. The internet service shall be for unlimited data with a minimum internet data download speed of 25 megabits per second. For areas where this minimum download speed is not available, the maximum speed available for the area shall be provided.

- (2) Telephone Line. One landline touch tone telephone with voicemail or answering machine. The telephone shall have an unpublished number.
- (i) One plain paper wireless color printer capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray. Separate paper trays for letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided. The wireless printer shall also be equipped to copy in color and scan documents.
- (j) One electric water cooler dispenser.
- (k) One first-aid cabinet fully equipped.
- (l) One microwave oven (minimum 700 watt) with a turntable and 1 cu ft (0.03 cu m) minimum capacity.
- (m) One fire-proof safe, 0.5 cu ft (0.01 cu m) minimum capacity.
- (n) One electric paper shredder.
- (o) One post mounted rain gauge, located on the project site for each 5 miles (8 km) of project length.”

Revise the last sentence of the first paragraph of Articles 670.04 and 670.05 of the Standard Specifications to read:

“Doors and windows shall be equipped with locks.”

Revise Article 670.04(c) through 670.04(n) of the Standard Specifications to read:

- “(c) Two folding chairs.
- (d) One equipment cabinet of minimum inside dimension of 44 in. (1100 mm) high x 24 in. (600 mm) wide x 30 in. (750 mm) deep with lock. The walls shall be of steel with a 3/32 in. (2 mm) minimum thickness with concealed hinges and enclosed lock constructed to prevent entry by force. The cabinet assembly shall be permanently attached to a structural element of the field office to prevent theft of the entire cabinet.
- (e) A minimum of two communication paths. The configuration shall include:
 - (1) Internet Connection. An internet service connection with a wireless router capable of providing service to a minimum of five devices. The internet service shall be for unlimited data with a minimum internet download speed of 25 megabits per second. For areas where this minimum download speed is not available, the maximum speed available for the area shall be provided.

(2) Telephone Line. One land line touch tone telephone with voicemail or answering machine. The telephone shall have an unpublished number.

(f) One electric desk type tape printing calculator.

(g) One first-aid cabinet fully equipped.

(h) One plain paper wireless color printer capable of reproducing prints up to 11 x 17 in. (280 x 432 mm) with an automatic feed tray. Separate paper trays for letter size and 11 x 17 in. (280 x 432 mm) paper shall be provided. The wireless printer shall also be equipped to copy in color and scan documents.

(i) A portable toilet meeting Federal, State, and local health department requirements shall be provided, maintained clean and in good working condition, and shall be stocked with lavatory and sanitary supplies at all times. The portable toilet shall be serviced once per week.

(j) One electric water cooler dispenser.

(k) One refrigerator with a minimum size of 14 cu ft (0.45 cu m) with a freezer unit.

(l) One microwave oven (minimum 700 watt) with a turntable and 1 cu ft (0.03 cu m) minimum capacity.”

Revise Article 670.05(f) of the Standard Specifications to read:

“(f) One landline touch tone telephone with voicemail or an answering machine. The telephone shall have an unpublished number.”

Delete the last sentence of the second paragraph of Article 670.06 of the Standard Specifications.

Revise the fifth sentence of the first paragraph of Article 670.07 of the Supplemental 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 and monthly local telephone, when combined, exceed \$250.”

80423

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

FUEL COST ADJUSTMENT (BDE)

Effective: April 1, 2009

Revised: August 1, 2017

Description. Fuel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in fuel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any category of work will make that category of work exempt from fuel cost adjustment.

General. The fuel cost adjustment shall apply to contract pay items as grouped by category. The adjustment shall only apply to those categories of work checked "Yes", and only when the cumulative plan quantities for a category exceed the required threshold. Adjustments to work items in a category, either up or down, and extra work paid for by agreed unit price will be subject to fuel cost adjustment only when the category representing the added work was subject to the fuel cost adjustment. Extra work paid for at a lump sum price or by force account will not be subject to fuel cost adjustment. Category descriptions and thresholds for application and the fuel usage factors which are applicable to each are as follows:

(a) Categories of Work.

- (1) Category A: Earthwork. Contract pay items performed under Sections 202, 204, and 206 including any modified standard or nonstandard items where the character of the work to be performed is considered earthwork. The cumulative total of all applicable item plan quantities shall exceed 25,000 cu yd (20,000 cu m). Included in the fuel usage factor is a weighted average 0.10 gal/cu yd (0.50 liters/cu m) factor for trucking.
- (2) Category B: Subbases and Aggregate Base Courses. Contract pay items constructed under Sections 311, 312 and 351 including any modified standard or nonstandard items where the character of the work to be performed is considered construction of a subbase or aggregate, stabilized or modified base course. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is a 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (3) Category C: Hot-Mix Asphalt (HMA) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 355, 406, 407 and 482 including any modified standard or nonstandard items where the character of the work to be performed is considered HMA bases, pavements and shoulders. The cumulative total of all applicable item plan quantities shall exceed 5000 tons (4500 metric tons). Included in the fuel usage factor is 0.60 gal/ton (2.50 liters/metric ton) factor for trucking.
- (4) Category D: Portland Cement Concrete (PCC) Bases, Pavements and Shoulders. Contract pay items constructed under Sections 353, 420, 421 and 483 including any

modified standard or nonstandard items where the character of the work to be performed is considered PCC base, pavement or shoulder. The cumulative total of all applicable item plan quantities shall exceed 7500 sq yd (6000 sq m). Included in the fuel usage factor is 1.20 gal/cu yd (5.94 liters/cu m) factor for trucking.

- (5) Category E: Structures. Structure items having a cumulative bid price that exceeds \$250,000 for pay items constructed under Sections 502, 503, 504, 505, 512, 516 and 540 including any modified standard or nonstandard items where the character of the work to be performed is considered structure work when similar to that performed under these sections and not included in categories A through D.

(b) Fuel Usage Factors.

English Units		
Category	Factor	Units
A - Earthwork	0.34	gal / cu yd
B - Subbase and Aggregate Base courses	0.62	gal / ton
C - HMA Bases, Pavements and Shoulders	1.05	gal / ton
D - PCC Bases, Pavements and Shoulders	2.53	gal / cu yd
E - Structures	8.00	gal / \$1000

Metric Units		
Category	Factor	Units
A - Earthwork	1.68	liters / cu m
B - Subbase and Aggregate Base courses	2.58	liters / metric ton
C - HMA Bases, Pavements and Shoulders	4.37	liters / metric ton
D - PCC Bases, Pavements and Shoulders	12.52	liters / cu m
E - Structures	30.28	liters / \$1000

(c) Quantity Conversion Factors.

Category	Conversion	Factor
B	sq yd to ton	0.057 ton / sq yd / in depth
	sq m to metric ton	0.00243 metric ton / sq m / mm depth
C	sq yd to ton	0.056 ton / sq yd / in depth
	sq m to metric ton	0.00239 m ton / sq m / mm depth
D	sq yd to cu yd	0.028 cu yd / sq yd / in depth
	sq m to cu m	0.001 cu m / sq m / mm depth

Method of Adjustment. Fuel cost adjustments will be computed as follows.

$$CA = (FPI_P - FPI_L) \times FUF \times Q$$

Where: CA = Cost Adjustment, \$
FPI_P = Fuel Price Index, as published by the Department for the month the work is performed, \$/gal (\$/liter)
FPI_L = Fuel Price Index, as published by the Department for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price, \$/gal (\$/liter)
FUF = Fuel Usage Factor in the pay item(s) being adjusted
Q = Authorized construction Quantity, tons (metric tons) or cu yd (cu m)

The entire FUF indicated in paragraph (b) will be used regardless of use of trucking to perform the work.

Basis of Payment. Fuel cost adjustments may be positive or negative but will only be made when there is a difference between the FPI_L and FPI_P in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(FPI_L - FPI_P) \div FPI_L\} \times 100$$

Fuel cost adjustments will be calculated for each calendar month in which applicable work is performed; and will be paid or deducted when all other contract requirements for the items of work are satisfied. The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

80229

HOT-MIX ASPHALT – LONGITUDINAL JOINT SEALANT (BDE)

Effective: August 1, 2018
Revised: November 1, 2019

Add the following to Article 406.02 of the Standard Specifications.

“(d) Longitudinal Joint Sealant (LJS)1032”

Add the following to Article 406.03 of the Standard Specifications.

- “(k) Longitudinal Joint Sealant (LJS) Pressure Distributor (Note 2)
- (l) Longitudinal Joint Sealant (LJS) Melter Kettle (Note 3)

Note 2. When a pressure distributor is used to apply the LJS, the distributor shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the hauling tank to prevent localized overheating. The distributor shall be equipped with a guide or laser system to aid in proper placement of the LJS application.

Note 3. When a melter kettle is used to transport and apply the LJS, the melter kettle shall be an oil jacketed double-boiler with agitating and recirculating systems. Material from the kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal push cart.”

Revise Article 406.06(g)(2) of the Standard Specifications to read:

“(2) Longitudinal Joints. Unless prohibited by stage construction, any HMA lift shall be complete before construction of the subsequent lift. The longitudinal joint in all lifts shall be at the centerline of the pavement if the roadway comprises two lanes in width, or at lane width if the roadway is more than two lanes in width.

When stage construction prohibits the total completion of a particular lift, the longitudinal joint in one lift shall be offset from the longitudinal joint in the preceding lift by not less than 3 in. (75 mm). The longitudinal joint in the surface course shall be at the centerline of the pavement if the roadway comprises two lanes in width, or at lane width if the roadway is more than two lanes in width.

A notched wedge longitudinal joint shall be used between successive passes of HMA binder course that has a difference in elevation of greater than 2 in. (50 mm) between lanes on pavement that is open to traffic.

The notched wedge longitudinal joint shall consist of a 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the lane line, a 9 to 12 in. (230 to 300 mm) wide uniform taper sloped toward and extending into the open lane, and a second 1 to 1 1/2 in. (25 to 38 mm) vertical notch at the outside edge.

The notched wedge longitudinal joint shall be formed by the strike off device on the paver. The wedge shall then be compacted by the joint roller.

Tack coat shall be applied to the entire surface of the notched wedge joint immediately prior to placing the adjacent lift of binder. The material shall be uniformly applied at a rate of 0.05 to 0.1 gal/sq yd (0.2 to 0.5 L/sq m).

When the use of longitudinal joint sealant (LJS) is specified, the surface to which the LJS is applied shall be thoroughly cleaned and dry. The LJS may be placed before or after the tack coat. When placed after the tack coat, the tack shall be fully cured prior to placement of the LJS.

The LJS shall be applied in a single pass with a pressure distributor, melter kettle, or hand applied from a roll. At the time of installation, the pavement surface temperature and the ambient temperature shall be a minimum of 40 °F (4 °C) and rising.

The LJS shall be applied at a width of 18 in. (450 mm) ± 1 1/2 in. (38 mm) and centered ± 2 in. (± 50 mm) under the joint of the next HMA lift to be constructed. If the LJS flows more than 2 in. (50 mm) from the initial placement width, LJS placement shall stop and remedial action shall be taken.

When starting another run of LJS placement, suitable release paper shall be placed over the previous application of LJS to prevent doubling up of thickness of LJS.

The application rate of LJS shall be according to the following.

LJS Application Table			
Overlay Thickness in. (mm)	Coarse Graded Application Rate ^{1/} (IL-19.0, IL-19.0L, IL-9.5, IL-9.5L, IL-4.75) lb/ft (kg/m)	Fine Graded Application Rate ^{1/} lb/ft (kg/m)	SMA Mixtures ^{1/2/}
3/4 (19)	0.88 (1.31)		
1 (25)	1.15 (1.71)		
1 1/4 (32)	1.31 (1.95)	0.88 (1.31)	
1 1/2 (38)	1.47 (2.19)	0.95 (1.42)	1.26 (1.88)
1 3/4 (44)	1.63 (2.43)	1.03 (1.54)	1.38 (2.06)
2 (50)	1.80 (2.68)	1.11 (1.65)	1.51 (2.25)
≥ 2 1/4 (60)	1.96 (2.92)		

1/ The application rate has a surface demand for liquid included within it. The thickness of the LJS may taper from the center of the application to a lesser thickness on the edge of the application, provided the correct width and application rate are maintained.

2/ If the joint is between SMA and either Coarse Graded or Fine Graded, the SMA rate shall be used.

The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project. The application rate of LJS shall be verified within the first 1000 ft (300 m) of the day's placement and every 12,000 ft (3600 m) thereafter. A suitable paper or pan shall be placed at a random location in the path of the LJS. After application of the LJS, the paper or pan shall be picked up, weighed, and the application rate calculated. The tolerance between the application rate shown in the LJS Application Table and the calculated rate shall be ± 10 percent. The LJS shall be replaced in the area where the sample was taken.

A 1 qt (1 L) sample shall be taken from the pressure distributor or melting kettle at the jobsite once for each contract and sent to the Central Bureau of Materials.

The LJS shall be suitable for construction traffic to drive on without pickup or tracking of the LJS within 30 minutes of placement. If pickup or tracking occurs, LJS placement shall stop and damaged areas shall be repaired.

Prior to paving, the Contractor shall ensure the paver end plate and grade control device is adequately raised above the finished height of the LJS.

The LJS shall not flush to the final surface of the HMA pavement.”

Add the following paragraph after the second paragraph of Article 406.13(b) of the Standard Specifications.

“Application of longitudinal joint sealant (LJS) will be measured for payment in place in feet (meters).”

Add the following paragraph after the first paragraph of Article 406.14 of the Standard Specifications.

“Longitudinal joint sealant will be paid for at the contract unit price per foot (meter) for LONGITUDINAL JOINT SEALANT.”

Add the following to Section 1032 of the Standard Specifications.

“1032.12 Longitudinal Joint Sealant (LJS). Longitudinal joint sealant (LJS) will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, “Performance Graded Asphalt Binder Acceptance Procedure” with the following exceptions: Article 3.1.9 and 3.4.1.4 of the policy memorandum will be excluded. The bituminous material used for the LJS shall be according to the following table. Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt, acid modification, or other modifiers will not be allowed. LJS in the form of pre-formed rollout banding may also be used.

Test	Test Requirement	Test Method
Dynamic shear @ 88°C (unaged), G*/sin δ, kPa	1.00 min.	AASHTO T 315
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	300 max. 0.300 min.	AASHTO T 313
Ash, %	1.0 – 4.0	AASHTO T 111
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	70 min.	ASTM D 6084 (Procedure A)
Separation of Polymer, Difference in °C of the softening point (ring and ball)	3 max.	ITP Separation of Polymer from Asphalt Binder”

80398

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018
 Revised: March 1, 2019

Description. In addition to those manufactured according to the current standards included in this contract, manholes, valve vaults, and flat slab tops manufactured prior to March 1, 2019, according to the previous Highway Standards listed below will be accepted on this contract:

Product	Previous Standards		
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-05	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402-01	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-09	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-07	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-07	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-07	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426-01	602426	
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-04	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506-01	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04	

The following revisions to the Standard Specifications shall apply to manholes, valve vaults, and flat slab tops manufactured according to the current standards included in this contract:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4) 1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5) 1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be manufactured according to AASHTO M 199 (M 199M), except the minimum wall thickness shall be as shown on the plans. Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi

(31,000 kPa) at 28 days and manholes, valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”

80393

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

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	4.0 - 8.0"
	PP-1	
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

“(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type.”

80389

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

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2019

Revised: January 1, 2020

Revise Section 669 of the Standard Specifications to read:

“SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

669.01 Description. This work shall consist of the transportation and proper disposal of regulated substances. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their contents and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

669.02 Equipment. The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

669.03 Pre-Construction Submittals and Qualifications. Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a “Regulated Substances Pre-Construction Plan (RSPCP)” to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the Contractor(s) or firm(s) performing the work shall meet the following qualifications.

- (a) Regulated Substances Monitoring. Qualification for environmental observation and field screening of regulated substances work and environmental observation of UST removal shall require either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements using BDE 2730.

Qualification for each individual performing regulated substances monitoring shall require a minimum of one-year of experience in similar activities as those required for the project.

- (b) Underground Storage Tank Removal. Qualification for underground storage tank (UST) removal work shall require licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 21 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 21 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field and documented using BDE 2730A "Regulated Substances Pre-Construction Plan (RSPCP) Addendum" and submitted to the Engineer for approval.

CONSTRUCTION REQUIREMENTS

669.04 Regulated Substances Monitoring. Regulated substances monitoring includes environmental observation and field screening during regulated substances management activities at the contract specific work areas. As part of the regulated substances monitoring, the monitoring personnel shall perform and document the applicable duties listed on form BDE 2732 "Regulated Substances Monitoring Daily Record (RSMDR)".

- (a) Environmental Observation. Prior to beginning excavation, the Contractor shall mark the limits of the contract specific work areas. Once work begins, the monitoring personnel shall be present on-site continuously during the excavation and loading of material.
- (b) Field Screening. Field screening shall be performed during the excavation and loading of material from the contract specific work areas, except for material classified according to Article 669.05(b)(1) or 669.05(c) where field screening is not required.

Field screening shall be performed with either a photoionization detector (PID) (minimum 10.6eV lamp) or a flame ionization detector (FID), and other equipment as appropriate, to monitor for potential contaminants associated with regulated substances. The PID or FID shall be calibrated on-site, and background level readings taken and recorded daily, and as field and weather conditions change. Field screen readings on the PID or FID in excess of background levels indicates the potential presence of regulated substances requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

669.05 Regulated Substances Management and Disposal. The management and disposal of soil and/or groundwater containing regulated substances shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605, the soil shall be managed as follows:
 - (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC, but still considered within area background levels by the Engineer, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable. If the soils cannot be utilized within the right-of-way, they shall be managed and disposed of at a landfill as a non-special waste.
 - (2) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County identified in 35 Ill. Admin. Code 742 Appendix A. Table G, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above and the materials do not contain special waste or hazardous waste, as determined by the Engineer, the soil shall be managed and disposed of at a landfill as a non-special waste.
 - (6) When analytical results indicate soil is hazardous by characteristic or listing pursuant to 35 Ill. Admin. Code 721, contains radiological constituents, or the Engineer otherwise determines the soil cannot be managed according to Articles 669.05(a)(1)

through (a)(5) above, the soil shall be managed and disposed of off-site as a special waste or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(1) The pH of the soil is less than 6.25 or greater than 9.0.

(2) The soil exhibited PID or FID readings in excess of background levels.

(c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 Ill. Admin. Code 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way as embankment or fill, when suitable, or managed and disposed of off-site according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Ill. Admin. Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste or hazardous waste as applicable. Special waste groundwater shall be containerized and trucked to an off-site treatment facility, or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sanitary sewer or combined sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sanitary sewer or combined sewer.

Groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench, it may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority, or it shall be containerized and trucked to an off-site treatment facility as a special waste or hazardous waste. The Contractor is prohibited from discharging groundwater within the trench through a storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive

soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Contractor shall obtain all documentation including any permits and/or licenses required to transport the material containing regulated substances to the disposal facility. The Contractor shall coordinate with the Engineer on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate waste disposal approvals with the disposal facility.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation that the Contractor is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

Transportation and disposal of material classified according to Article 669.05(a)(5) or 669.05(a)(6) shall be completed each day so that none of the material remains on-site by the close of business, except when temporary staging has been approved.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number provided by the Bureau of Design and Environment. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill permitted for disposal of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by their permit and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

669.06 Non-Special Waste Certification. An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

- (1) a potentially infectious medical waste;
- (2) a hazardous waste as defined in 35 Ill. Admin. Code 721;
- (3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 Ill. Admin. Code 811.107;
- (4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61.141;
- (5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;
- (6) a material subject to the waste analysis and recordkeeping requirements of 35 Ill. Admin. Code 728.107 under land disposal restrictions of 35 Ill. Admin. Code 728;
- (7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
- (8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.

(b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:

- (1) the means by which the generator has determined the waste is not a hazardous waste;
- (2) the means by which the generator has determined the waste is not a liquid;
- (3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;
- (4) if the waste does not undergo testing, an explanation as to why no testing is needed;

(5) a description of the process generating the waste; and

(6) relevant material safety data sheets.

669.07 Temporary Staging. Soil classified according to Articles 669.05(a)(2), (b)(1), or (c) may be temporarily staged at the Contractor's option. Soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) shall be managed and disposed of without temporary staging to the greatest extent practicable. If circumstances beyond the Contractor's control require temporary staging of these latter materials, the Contractor shall request approval from the Engineer in writing.

Temporary staging shall be accomplished within the right-of-way and the Contractor's means and methods shall be described in the approved or amended RSPCP. Staging areas shall not be located within 200 feet (61 m) of a public or private water supply well; nor within 100 feet (30 m) of sensitive environmental receptor areas, including wetlands, rivers, streams, lakes, or designated habitat zones.

The method of staging shall consist of containerization or stockpiling as applicable for the type, classification, and physical state (i.e., liquid, solid, semisolid) of the material. Materials of different classifications shall be staged separately with no mixing or co-mingling.

When containers are used, the containers and their contents shall remain intact and inaccessible to unauthorized persons until the manner of disposal is determined. The Contractor shall be responsible for all activities associated with the storage containers including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could cause the waste to be reclassified as a hazardous or special waste.

When stockpiles are used, they shall be covered with a minimum 20-mil plastic sheeting or tarps secured using weights or tie-downs. Perimeter berms or diversionary trenches shall be provided to contain and collect for disposal any water that drains from the soil. Stockpiles shall be managed to prevent or reduce potential dust generation.

When staging non-special waste, special waste, or hazardous waste, the following additional requirements shall apply:

- (a) **Non-Special Waste.** When stockpiling soil classified according to Article 669.05(a)(1) or 669.05(a)(5), an impermeable surface barrier between the materials and the ground surface shall be installed. The impermeable barrier shall consist of a minimum 20-mil plastic liner material and the surface of the stockpile area shall be clean and free of debris prior to placement of the liner. Measures shall also be taken to limit or discourage access to the staging area.
- (b) **Special Waste and Hazardous Waste.** Soil classified according to Article 669.05(a)(6) shall not be stockpiled but shall be containerized immediately upon generation in containers, tanks or containment buildings as defined by RCRA, Toxic Substances Control

Act (TSCA), and other applicable State or local regulations and requirements, including 35 Ill. Admin. Code Part 722, Standards Applicable to Generators of Hazardous Waste.

The staging area(s) shall be enclosed (by a fence or other structure) to restrict direct access to the area, and all required regulatory identification signs applicable to a staging area containing special waste or hazardous waste shall be deployed.

Storage containers shall be placed on an all-weather gravel-packed, asphalt, or concrete surface. Containers shall be in good condition and free of leaks, large dents, or severe rusting, which may compromise containment integrity. Containers must be constructed of, or lined with, materials that will not react or be otherwise incompatible with the hazardous or special waste contents. Containers used to store liquids shall not be filled more than 80 percent of the rated capacity. Incompatible wastes shall not be placed in the same container or comingled.

All containers shall be legibly labeled and marked using pre-printed labels and permanent marker in accordance with applicable regulations, clearly showing the date of waste generation, location and/or area of waste generation, and type of waste. The Contractor shall place these identifying markings on an exterior side surface of the container.

Storage containers shall be kept closed, and storage pads covered, except when access is needed by authorized personnel.

Special waste and hazardous waste shall be transported and disposed within 90 days from the date of generation.

669.08 Underground Storage Tank Removal. For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department's Office of Chief Counsel (OCC) will review all UST removal permits prior to submitting any removal permit to the OSFM. If the Department is not the "owner" or "operator" of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Admin. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport, and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Admin. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM's inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the District Environmental Studies Unit (DESU). Upon confirmation of a release of contaminants and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available ("owner" or "operator" shall be stated as the past registered "owner" or "operator", or the IDOT District in which the tank is located and the DESU Manager).

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

- (a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank;
- (b) Identify and mitigate fire, explosion and vapor hazards;
- (c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and
- (d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the tank excavation zone and entered into subsurface structures (such as sewers or basements).

The tank excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

669.09 Regulated Substances Final Construction Report. Not later than 90 days after completing this work, the Contractor shall submit a “Regulated Substances Final Construction Report (RSFCR)” to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

669.10 Method of Measurement. Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

669.11 Basis of Payment. The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

Regulated substances monitoring, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof to the nearest 0.5 calendar day, for REGULATED SUBSTANCES MONITORING.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of UST removal, soil excavation, soil and content sampling, the management of excavated soil and UST content, and UST disposal, will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for

NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging of soil classified according to Articles 669.05(a)(1), (a)(3), (a)(4), (a)(5), (a)(6), or (b)(2) will be paid for according to Article 109.04. The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

When the waste material for disposal requires sampling for landfill disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311 (extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT."

80407

SILT FENCE, GROUND STABILIZATION AND RIPRAP FILTER FABRIC (BDE)

Effective: November 1, 2019

Revise Article 1080.02 of the Standard Specifications to read:

“1080.02 Geotextile Fabric. The fabric for silt filter fence shall consist of woven fabric meeting the requirements of AASHTO M 288 for unsupported silt fence.

The fabric for ground stabilization shall consist of woven yarns or nonwoven filaments of polyolefins or polyesters. Woven fabrics shall be Class 2 and nonwoven fabrics shall be Class 1 according to AASHTO M 288.

The physical properties for silt fence and ground stabilization fabrics shall be according to the following.

PHYSICAL PROPERTIES			
	Silt Fence Woven ^{1/}	Ground Stabilization Woven ^{2/}	Ground Stabilization Nonwoven ^{2/}
Grab Strength, lb (N) ^{3/} ASTM D 4632	123 (550) MD 101 (450) XD	247 (1100) min. ^{4/}	202 (900) min. ^{4/}
Elongation/Grab Strain, % ASTM D 4632 ^{4/}	49 max.	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 ^{4/}	--	90 (400) min.	79 (350) min.
Puncture Strength, lb (N) ASTM D 6241 ^{4/}	--	494 (2200) min.	433 (1925) min.
Apparent Opening Size, Sieve No. (mm) ASTM D 4751 ^{5/}	30 (0.60) max.	40 (0.43) max.	40 (0.43) max.
Permittivity, sec ⁻¹ ASTM D 4491	0.05 min.		
Ultraviolet Stability, % retained strength after 500 hours of exposure ASTM D 4355	70 min.	50 min.	50 min.

1/ NTPEP results or manufacturer’s certification to meet test requirements.

2/ NTPEP results to meet test requirements. Manufacturer shall have public release status and current reports on laboratory results in Test Data of NTPEP’s DataMine.

3/ MD = Machine direction. XD = Cross-machine direction.

4/ Values represent the minimum average roll value (MARV) in the weaker principle direction, MD or XD.

5/ Values represent the maximum average roll value.”

Revise Article 1080.03 of the Standard Specifications to read:

“1080.03 Filter Fabric. The filter fabric shall consist of woven yarns or nonwoven filaments of polyolefins or polyesters. Woven fabrics shall be Class 3 for riprap gradations RR 4 and RR 5, and Class 2 for RR 6 and RR 7 according to AASHTO M 288. Woven slit film geotextiles (i.e. geotextiles made from yarns of a flat, tape-like character) shall not be permitted. Nonwoven fabrics shall be Class 2 for riprap gradations RR 4 and RR 5, and Class 1 for RR 6 and RR 7 according to AASHTO M 288. After forming, the fabric shall be processed so that the yarns or filaments retain their relative positions with respect to each other. The fabric shall be new and undamaged.

The filter fabric shall be manufactured in widths of not less than 6 ft (2 m). Sheets of fabric may be sewn together with thread of a material meeting the chemical requirements given for the yarns or filaments to form fabric widths as required. The sheets of filter fabric shall be sewn together at the point of manufacture or another approved location.

The filter fabric shall be according to the following.

PHYSICAL PROPERTIES ^{1/}				
	Gradation Nos. RR 4 & RR 5		Gradation Nos. RR 6 & RR 7	
	Woven	Nonwoven	Woven	Nonwoven
Grab Strength, lb (N) ASTM D 4632 ^{2/}	180 (800) min.	157 (700) min.	247 (1100) min.	202 (900) min.
Elongation/Grab Strain, % ASTM D 4632 ^{2/}	49 max.	50 min.	49 max.	50 min.
Trapezoidal Tear Strength, lb (N) ASTM D 4533 ^{2/}	67 (300) min.	56 (250) min.	90 (400) min.	79 (350) min.
Puncture Strength, lb (N) ASTM D 6241 ^{2/}	370 (1650) min.	309 (1375) min.	494 (2200) min.	433 (1925) min.
Ultraviolet Stability, % retained strength after 500 hours of exposure - ASTM D 4355	50 min.			

1/ NTPEP results to meet test requirements. Manufacturer shall have public release status and current reports on laboratory results in Test Data of NTPEP’s DataMine.

2/ Values represent the minimum average roll value (MARV) in the weaker principle direction [machine direction (MD) or cross-machine direction (XD)].

As determined by the Engineer, the filter fabric shall meet the requirements noted in the following after an onsite investigation of the soil to be protected.

Soil by Weight (Mass) Passing the No. 200 sieve (75 μm), %	Apparent Opening Size, Sieve No. (mm) - ASTM D 4751 ^{1/}	Permittivity, sec^{-1} ASTM D 4491
49 max.	60 (0.25) max.	0.2 min.
50 min.	70 (0.22) max.	0.1 min.

1/ Values represent the maximum average roll value.”

80419

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

80391

TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

“703.02 Materials. Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III 1095.06
- (b) Paint Pavement Markings 1095.02
- (c) Pavement Marking Tape, Type IV 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

“703.07 Basis of Payment. This work will be paid for as follows.

- a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

“1095.11 Pavement Marking Tape, Type IV. The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
 - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
 - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

Wet Retroreflectance, Initial R_L

Color	R_L 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.
- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

80298

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

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 5 . 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 than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor 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

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor

performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection

for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#).

The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each

classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a

separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one

and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of

Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of

Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Contract Provision - Cargo Preference Requirements

In accordance with Title 46 CFR § 381.7 (b), the contractor agrees—

“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”

Provisions (1) and (2) apply to materials or equipment that are acquired solely for the project. The two provisions do not apply to goods or materials that come into inventories independent of the project, such as shipments of Portland cement, asphalt cement, or aggregates, when industry suppliers and contractors use these materials to replenish existing inventories.

**MINIMUM WAGES FOR FEDERAL AND FEDERALLY
ASSISTED CONSTRUCTION CONTRACTS**

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision shall be the minimum paid by contractors and subcontractors to laborers and mechanics.